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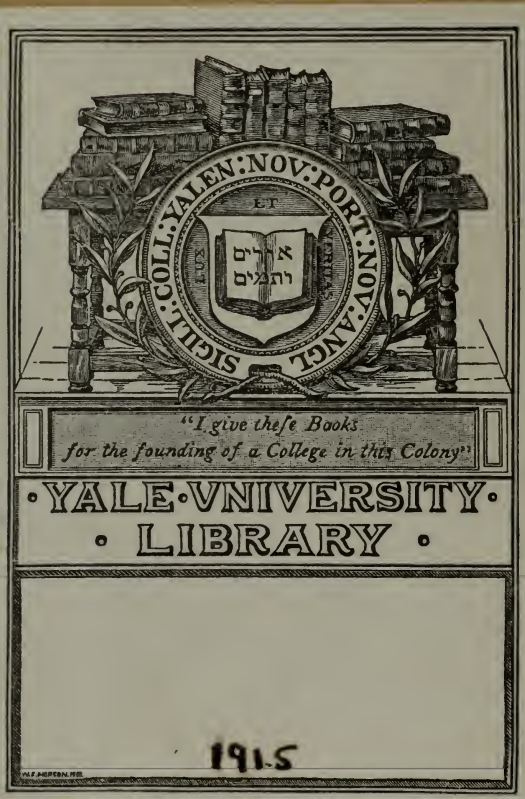

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FILARIASIS, WITH A PRACTICAL DEMONSTRATION OF LIVING EMBRYOS OF THE FILARIA SANGUINIS HOMINIS (NOCTURNA).

By Tilghman B. Marden, A.B., M.D.,
Professor of Histology and Embryology; formerly Professor of Histology, Biology and Embryology at the Baltimore Medical College.

THROUGH the courtesy of Prof. Gordon Wilson and Dr. B. J. Asper, I have been given the privilege of bringing before you a case of filariasis, which privilege I am accepting on account of the rarity of the affection in this country, and this exceptional opportunity of demonstrating to you the living filarial embryos in the blood.

This young man, from whom the specimens of blood have been obtained, is from Porto Rico, having come to Baltimore for the purpose of studying medicine at the Baltimore Medical College. In the early part of October of this session he made his first appearance in the laboratory for work in histology, and informed me that he wished I could benefit him during his stay here in this country, as he had, according to the statements of his physician at home, filariasis. I, appreciating the importance of his case to the subject which I have been teaching for the past few years—medical zoology—as a part of the course on biology, sent him to my confrere, Dr. E. L. Whitney, in the clinical laboratory, with a request that he make a blood examination for me. Since then Dr. Whitney and he have been having their midnight seances for the purpose of obtaining specimens of his blood, so that now this young man is so experienced in blood-getting that he is able to prepare good specimens of his own blood when such specimens are desired. The blood is obtained in the usual way under proper aseptic precautions by pricking the finger or lobe of the ear. A thick film is obtained on a cover-slip and, if to be used as a fresh specimen, the cover-slip is placed upon a slide, blood side down,

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and the edge of the cover is rimmed with vaseline to prevent evaporation of the liquid part of the blood and thus prevent drying up of the specimen. If a stained specimen be desired, the cover-slip film may be stained by placing it in a staining dish of water to which a few drops of alcoholic solution of fuchsin or of gentian violet have been added. We have obtained very good results by staining by the eosin-methylene blue method.

The blood must be obtained at night, as the embryos have a nocturnal periodicity, making their appearance in the peripheral blood stream toward evening, increasing in numbers during the night and disappearing again in the morning, going to the lungs and there remaining until evening, when they again pass into the blood stream. Some authorities claim that from 8 to 10 P. M. is the best time to obtain good specimens, but we at the Baltimore Medical College have found that the best time in this case is about midnight. Hence you can readily appreciate the appropriateness of the suffix *nocturna* to distinguish this species of filaria from the *filaria loa,* which has a diurnal periodicity, appearing in the blood about 8 A. M., increasing in number up to noon and disappearing about 9 P. M.

Etiology.—The cause of filariasis is the filaria, transmitted by the mosquito, *culex fatigans,* man being the host, the mosquito the intermediate host. This young man is affected with filariasis caused by the species *filaria bancrofti,* of the genus *filaria,* of the family *filariidae,* of the class of worms termed *nematodes.* The embryos of this variety of filaria was first reported by DeMarquay in 1863, who found them in the blood of a man from Havana. This genus has been named differently by different investigators, viz.:

Trichina cystica, Salisbury, 1868.
Filaria sanguinis, Lewis, 1872.
Filaria bancrofti, Bancroft, 1877.
Filaria sanguinis hominis agypt, Sonsino, 1874.
Filaria sanguinis hominis nocturna and filaria nocturna, Manson, 1891.

Although it is best known as the *filaria bancrofti* and the *filaria sanguinis hominis.* It is found in the lmyphatics of the trunk and extremities. The adult worm was first found by Bancroft in 1876 in a lymphatic abscess of the arm, and later in a case of hydrocele.

Morphology.—This species of filaria is a colorless opaque round worm, having an elongated body of very delicate structure possessing a marked tendency to coil; its cuticula is transversely striated; its anterior end slightly thickened or club-shaped, without the lips or papilla; its posterior end is rounded and tapering to form the tail. The male is shorter than the female worm, being 35 to 40 millimeters long, or about two inches, according to Stitt, while the female is 75 to 95 millimeters long, or about three inches, according to Stitt, and not as broad, the male being 0.1 to 0.12

millimeters, the female 0.21 to 0.28 millimeters broad; but its tail is more twisted into a coil than that of the female. Both sexes are found together in lymph channels coiled up into a knot. The female is viviparous, and has an opening to the exterior, situated near its anterior end, which opening is its vagina, from which extend two thin-walled uterine tubes which almost completely fill the body cavity, pushing the intestine close up against the body wall. These tubes are filled with ova and embryos in various stages of development. The *ova* are oval in shape, 25 to 28 microms long and about 15 microms wide.

Embryo of filaria sanguinis hominis in stained specimen of blood (low power).

The *embryos* are of most importance to the diagnostician, as they are the evidence of the affection which are found by an examination of the blood, as their presence in the blood indicates the presence of adult filaria in the body. On this table there are five microscopes, under four of which are fresh specimens of blood obtained from this young man last midnight, three of which are under low power, one under high. Under the fifth microscope there is a specimen stained by the eosin-methylene blue method. You will please come down one by one and carefully examine each specimen. You can easily locate an embryo under low power magnification by looking for agitation of the red blood corpuscles, which agitation is due to the movements of the tail of the embryo.

You will please observe that they are comparatively long, being 0.2 to 0.33 millimeters long and 7 to 11 microms broad, and possibly you may see the enveloping sheath. You will also observe that the long worm-like body is rounded anteriorly and the pointed posterior end is in constant motion of a slow sinuous twisting and coiling character, lashing the corpuscles about, but the embryo remaining in one place, as the motion is not a progressive one. The embryos may be kept alive in such a specimen for five days, and after 48 hours empty sheaths are found. They may be very numerous, we having found as many as 14 in one specimen, and it is claimed that in one case the number was estimated at 40 to 50 millions. Their presence in the blood produces a leucocytosis with increase of eosinophiles, but does not seem to produce any deleterious effect upon the person affected, their presence being

Filarial embryo in the blood.

important as an indication of adults in the body and as a menace to others, as they may be drawn into the mosquito and transmitted to other persons.

BLOOD EXAMINATION.

October 16, 1912 (Midnight).

No plasmodia.
No pigmentation of leucocytes or plasma.
Slight increase in leucocytes.
Marked increase in blood plates.
No morphological changes in red blood corpuscles.

Filaria sanguinis hominis present. Slide and cover-slip specimens made at 11 P. M. showed, respectively, 6, 3, 1 and 0 per drop. A drop drawn at midnight showed 14 parasites. These re-

tained motility for at least 40 hours at cool room temperature, being still motile at the time this report was written.

Differential counts on midnight specimen shows:

	Number Counted.	Per Cent.
Small mononuclears	142	23.67
Large mononuclears	17	2.83
Transitionals	30	5.00
Polymorphonuclears	342	57.00
Eosinophiles	64	10.66
Basophiles	5	0.83

WHITNEY AND WYLIE.

Life History.—The female filaria is viviparous, and the embryos in large numbers are evacuated into the lymph stream, thence into the blood stream. The mosquito, *culex fatigans,* bites a person affected with filaria, sucks the embryo-charged blood into its stomach. Twelve hours after the embryos have been taken into

Filarial embryo leaving its sheath.

the stomach of the mosquito one may find empty sheaths and embryos lying side by side, indicating the shedding by the embryo of its enveloping sheath. By the next day the embryos have passed through the wall of the mosquito's stomach and become imbedded in its thoracic muscles, where they remain and develop. At the end of 11 days they are 20 to 25 microms broad and more than 580 microms long. At about the 17th or 18th day they have developed into larvae, and leave the thoracic muscle and migrate into the connective tissue in front of the prothorax. At this stage of development the larvae are more slender than before, being 18 to 20 microms in diameter, and show the presence of an alimentary canal and rudimentary reproductive organs. By the 20th day the larvae have penetrated into the head and proboscis; then they pass to the labium. Like the malarial organism these larvae are inoculated into a person, passing from the labium by way of Dutton's membrane. The last stage of development occurs in the lower layers of the skin of the person bitten, where the larvae develop into the adult form of filaria, and there copulate. Adults

may occlude large lymphatics and produce lymph stasis, with resulting dilatation of lymphatics, varicose lymphatic vessels, chyluria, varicose inguinal glands, lymph scrotum, chylocele, lymphangitis and elephantiasis. It is also possible that in case of injury to the adult female filaria, ova and embryos may be extruded and occlude lymph vessels.

Its Geographical Distribution.—This affection is a tropical disease, although it may be found in the subtropics. It has been found in tropical Asia, Africa, America, Australia and, as we see by this case before you, in the West Indies. In Samoa and other South Pacific islands the affection is prevalent, affecting about 50 per cent. of the population. The first mention of the organism in the United States was by Salisbury in 1868. Guiteras in 1886 reported four cases from Key West and one from Charleston,

Embryo Filaria (high power).

Filarial larvae in thoracic muscle of mosquito.

S. C. As the presence of the embryos in the blood does not necessarily produce outward manifestations of the affection, filariasis may be more widely distributed than is at present known. For instance, in the Barbadoes nearly 13 per cent. of the persons examined had filarial embryos in their blood, yet two-thirds of the infected cases showed no signs or symptoms of the disease.

The clinical history of the case before you is as follows: About two years ago this young man had his first attack, and has had numerous attacks since then up to the time he left Porto Rico, the last two attacks being about one month apart. He describes his condition as follows: For a few days he feels languid and weak and has no desire for food, a condition of malaise; then he has a severe shaking chill, which necessitates his going to bed, soon followed by a fever (103° F.), which begins to subside on the second day, disappearing entirely about three days, and he then feels as well as ever until another attack begins. During the at-

tacks he notices a series or chain of small swellings in the right groin and a slight swelling on the under surface of the elbow of the right arm, from which extends a reddish-colored streak up the arm nearly to the axilla. He came to Baltimore last September and had one attack in that month, but none since. He informs me that at home he has taken arsenic regularly for a month at a time without beneficial results. For the swollen glands he has derived relief from pain by the application of the tincture of iodine. On account of the malaise, fever and pain on walking he found it necessary to remain in bed about three days. Change of climate

A microphotograph of the head of the mosquito, showing the compound eye above, the broad labium to the right, and the antennae drawn up out of the way of the proboscis while the mosquito is at work.

seems, up to the present time, to be the only thing which benefits the person affected, drugs such as arsenic, alteratives and tonics and salvarsan having been tried, but found inefficient.

The prognosis in this case is good, as he has already shown improvement in not having had an attack for six months and in the number of embryos in his blood having apparently decreased. He expects to stay here this summer and next winter, and we confidently expect that in a year's time he will be much improved, and we have hopes of him being cured. As to his general physical condition, it is very good, except that he is perhaps slightly undersized. His mental condition has not evidently been impaired by

the affection, as we have found him a very good student, and he stands well in his class.

In conclusion, I ask you to remember the marked contrast between this affection and that due to hookworm. In this one the adult worm is merely in the body as its host, lying in the lmyphatic channels, producing no pathological effects except those brought about by mechanical clogging of the lymph vessels, while in the other the adult worms attach themselves to the villi of the intestine and practically suck the strength from the person, thereby producing physical and mental deterioration, or preventing normal development.

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The microphotographs were prepared by P. E. Schaun, a student of the Junior Class of the Baltimore Medical College.

INTERNAL DERANGEMENTS OF THE KNEE JOINT.*

By Arthur M. Shipley, M.D., and Frank S. Lynn, M.D.

From an anatomical standpoint the knee joint is unlike other joints in some particulars—and this peculiarity causes some of the diseased conditions to which this joint is liable.

In the first place it depends entirely upon ligaments for strength and stability. The articular surfaces of the tibia and femur present no real cup or socket and no real concavity. The only approach to any mortise effect is the projection of the spine of the tibia between the trochanters of the femur, and here the spine is far too small to procure any locking effect.

Another peculiarity is that the knee is supplied with two sets of ligaments spoken of as an external and internal set. There is no especial peculiarity about the external ligaments except the fact stated above, that almost the entire stability of the joint depends upon them. Practically speaking, the knee is surrounded by a strong, capsular ligament which is strengthened in front and on the sides by thickenings spoken of as the anterior, external and internal lateral ligaments respectively.

The internal ligaments present various interesting facts, and here is found the explanation of much of the knee joint trouble.

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*Read before the Semi-annual Meeting of the Medical and Chirurgical Faculty at Upper Marlboro, November, 1914.

The flattened articular surfaces of the upper end of the tibia are deepened by wedge-shaped semicircles of cartilage which are firmly fastened to the upper margins of the tibia. These are the semilunar cartilages, and the fastenings are the transverse and coronary ligaments.

Then there are two other internal ligaments, very peculiarly arranged, called the crucial ligaments. These aid in limiting the motions of the joint and in supporting the weight of the leg when the foot is off the ground.

There are still other structures within the knee joint, and it is not so easy to define their function.

There is the ligamentum mucosum described in the anatomies. This is a vertical partition extending into the joint from the anterior portion below the patella to the intercondyloid notch. It is roughly triangular in shape and is a fold of the synovial membrane containing ligamentous fibers. It sends off two fringe-like folds upward and laterally, and these folds are called the ligamenta alaria.

All these structures are well-known and described in all textbooks of anatomy. Now we come to the other structures with which we are not so familiar. These structures are usually called joint pads, and there are a number of these projecting into the cavity of the knee joint. There are two which are definitely named and are called the infra and supra-patellar pads. These pads are composed of fat, fibrous tissue and blood vessels, and are covered by synovial membrane. There are a number of opinions as to their function. One is that these folds serve as "wipers" for the joint surfaces to keep them moist; another is that they add to the extent of the synovial surface, and are believed to increase the secretion of synovial fluid. The knee joint is rather imperfectly supplied with synovial fluid.

The infra patellar pad is by far the largest and most important. It is attached to the extensor tendon below the patella, and projects backward into the joint. This pad becomes lobulated and the lobules develop pedicles. There are two kinds of lobules—one is composed of fat and is soft, the other is hard and firm and approaches cartilage in its structure.

Now these pads together with the ligamenta mucosum and alaria render the synovial surface of the knee joint anything else than a smooth one, and it is this peculiar reduplication of the lining of the joint, together with the lack of bone stability and great wear and tear that make this joint so frequently the site of the so-called internal derangements.

In infectious diseases of the knee joint these reduplications of the synovial membrane become red and swollen and give to the synovial surface a very irregular appearance, and hence we have the term villous arthritis so often applied to the knee joint.

These structures explain in part another condition occasionally seen in this joint—the presence of detached pieces of cartilage.

Most of these are believed to be the pedeculated lobules of the joint pads which have become detached from their pedicles.

The most frequently injured structure within the knee joint is the infra-patellar pad. Ends of this pad become pediculated and elongated, and are caught between the articular surfaces of the femur and tibia. This injures them and causes irritation and thickening. The pinching produces pain and the pain is especially noticed when stair climbing. In addition to the pain there is either intermittent or continuous synovitis with effusion. Sometimes the pinching takes place suddenly and in considerable degree so that these patients complain of sudden disability, and this condition may therefore be mistaken for loose or torn semilunar cartilage.

There are two classes of patients who are affected with hypertrophied fringes, or elongated joint pads.

One class is composed mainly of women, and of women who are fat. Here the joint pad becomes much elongated because of fat deposition and the patient complaints of almost constant pain when walking. On examination this pad can often be felt projecting into the infra-pateller space and projecting outward on either side of the ligamentum patellae.

This condition is sometimes called lipoma of the knee joint.

The other class of patients is composed chiefly of athletes and laborers. Here the pathological picture is very different, although the symptoms are practically identical. In this class the elongated and thickened pad is composed not of soft fat covered by smooth synovial membrane, but is made up of hard, firm cartilage-like material whose covering is rough and irregular, and in two of our cases there were distinct evidences on the articular surfaces of the condyles of the femur of bruising and indentation produced when these hard cartilagenous bodies were caught between the bones.

The condition that most nearly approaches this in symptomalology is dislocation of the semilunar cartilages. This condition is variously spoken of as Hey's internal derangement of the knee joint, slipping cartilage, loose cartilage. The internal semilunar is the one chiefly involved. This condition has been long recognized, and very many cases have been reported. It is a definite pathological and clinical entity. As numerous as have been the reported cases of this condition, it is believed by many not to be so frequent as hypertrophied joint fringes, and it is quite likely that some of the patients who have had their semilunar cartilage either removed or sutured in position, and have not been improved thereby, were not disabled by this condition, but were really incapacitated by enlarged joint pads.

It is now believed that almost all of the floating cartilagenous bodies were originally a portion of these pads.

I shall make no attempt to discuss the many other diseased conditions of the knee joint, but with the above statement as an introductory and explanatory one, will report a short series of six cases which fall in this group.

Case I. A middle-aged man, a foreman of a gang of laborers, who gave a detailed and intelligent history, complained of frequent attacks of sudden, violent pain in the knee, followed by complete disability for a short time and rapidly developing synovitis. I thought at first that he was suffering from a detached semilunar cartilage, but the pain was not on either side in the neighborhood of the semilunars, there was no tenderness over the semilunars, and he located the pain as being in the posterior portion of the joint. He was always free of pain when the joint was full of fluid. The X-ray showed nothing abnormal.

An arthrotomy was done by means of a vertical incision parallel and to the inner side of the extensor ligament. The joint was well filled with rather clear fluid and at first no foreign body was found. The internal semilunar was examined and found intact. With the examining finger thrust far back in the joint behind the crucial ligaments, a loose body was felt, and this was lifted out and found to be a large free cartilagenous body with an uneven surface and about the diameter of the end of the finger. At that time I knew nothing about joint pads, but I noticed that there projected into the joint a number of elongated masses whose ends were hard, and I trimmed away these masses. There was considerable bleeding, and to control this the stumps were ligated by transfixion. The wound was carefully closed, layer by layer, with fine silk without drainage, the joint immobilized in a plaster dressing, and the patient made an uneventful recovery and afterward was free from his previous attacks.

Case II. This patient was a man nearly 60, who had suffered a long-standing knee condition with attacks of periodical synovitis, pain and disability, but, added to this, for some time previous to our seeing him his knee was becoming more and more fixed.

Arthrotomy disclosed a pathological picture resembling arthritis deformans. There was great thickening of the articular cartilage just at the joint edges of the bone, and this thickening was in the form of nodules, varying in size up to a small marble. These were chiselled away. On further examination the ligamentum mucosum and joint pads were studded all over with these same cartilagenous bodies, but there were no adhesions anywhere within the joint. The fringes were excised.

Case III. The patient was a very fat woman, about 30 years of age. She complained of constant pain in one knee on walking. She did not suffer any particularly acute attacks, and she was not entirely disabled. She got about, but with almost continual pain. This disappeared when she was not standing or walking.

On palpation of the joint thickening could be felt on both sides of the ligamentum patellae. She had a moderate amount of fluid in the joint.

Arthrotomy disclosed large masses of fat covered by very thin synovial membrane projecting into the joint cavity. The edges of these fat masses were much frayed and thinned out in places.

They were removed. The patient has gotten about without pain, and is apparently cured. This was three years ago.

Case IV. This patient was a middle-aged man, a foreman in a marble quarry. He had been having trouble with one knee for more than a year, and he dated his trouble from a fall of about two feet off a piece of timber.

There was no locking of the joint at any time, and no limitation of motion. The chief symptom was pain when walking with effusion into the joint.

Arthrotomy showed a moderately reddened synovial membrane with considerable free flued in the joint; the semilunars were not injured. There were two irregular masses projecting backward and upward into the joint from the infra patellar fossa. There was a mass on either side of the ligamentum mucosum, and apparently identified with it so that there really seemed to be but one mass. This mass could be separated into its component parts, however. The edges were frayed out and in places long processes were connected to the mass by thin pedicles. These edges were hard and nodular. The articular surface of the condyles of the femur were indented in places.

These masses were removed with curved scissors close down to the joint surface and the stump ligated by suturing to prevent bleeding into the joint. His recovery was a most excellent one.

Case V. This patient was a young man who had suffered repeated attacks of pain with effusion into both knee joints. The duration had been three years. A condition complicating the diagnosis was the fact that he had had gonococual urethritis and a diagnosis of gonococcal arthritis had been made by several physicians.

Two operations were performed on this patient—an arthrotomy of each knee joint. There was considerable redness of the synovial membrane. The two joints were very similar except that the fringes were much more hypertrophied in one than in the other.

These fringes were very long and the masses were large. They filled up a considerable portion of the joint cavity and projected chiefly from below and in front backward and upward beneath the condyles of the femur when the knee was partially flexed. They were carefully removed. Cultures and smears were made from the fluid before and during operation, and the tissue removed was inoculated into the joints of animals and cultured. All of these resulted negatively.

This case is the most recent one of the series. He has had no recurrence of effusion, but it is less than a year, and I can not report him as cured.

Case VI. This case was a young woman who had large ligamatous masses projecting into her knee in the position of the infrapatellar joint pad. An interesting thing about this case was that she was very thin.

Arthrotomy was done, the masses removed, and she has had no further trouble, although this was about 18 months ago.

In conclusion, it will thus be seen that from the nature of the structures causing these derangements, the X-ray does not give us very much assistance in a great many cases, and that only by an exploration of the joint can we ascertain the true condition of affairs. It is our conviction that semi-lunars are not so much at fault as was formerly supposed.

Finally, mechanical disadvantages mentioned at the beginning of this paper, together with the weight that the joint is repeatedly called upon to bear in all positions of flexion and extension, furnish the chief reasons why the knee is the most frequently deranged of all the joints in the body.

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WILLS HOSPITAL OPHTHALMIC SOCIETY.

Meeting of October 5, 1914.—Dr. S. Lewis Ziegler in the Chair.

GONORRHEAL OPHTHALMIA.

Dr. S. D. Risley exhibited a patient convalescing from a violent attack of gonorrheal opthalmia, which he said was the only case occurring in his service for many years. The patient had first applied with a catarrhal conjunctivitis, which simulated, because of the retrotarsal swelling and viscid discharge, the early acute stage of trachoma, but laboratory study showed only streptococci and a few pneumococci. A thorough application of silver nitrate at the clinic, and an alkaline wash and zinc sulphate at home, led to a speedy recovery.

A few days later the patient returned with swollen lids, a profuse purulent discharge and an edematous collar embedding the entire limbus of the cornea. He had severe pain. Laboratory study revealed an abundance of gonococci. He was admitted to the isolation ward, and placed on continuous iced compresses, frequent thorough cleansing and strong solutions of silver nitrate to the everted lids and retrotarsal folds.

The pain continued. In forty-eight hours, the cornea was infiltrated, and the anterior chamber apparently filled with pus. The ball was hard, swollen and extremely tender to palpation. The cornea ruptured, and a hopeless prognosis was given.

The conjunctival sac was then filled with a 10 per cent. ointment of cassaripe, i. e., the expressed juice of the black cassava, the base of the West Indian pepper-pot used by the natives to preserve meat. The pain and suppuration subsided with great rapidity, the swelling of the lids disappeared, and convalescence was rapid. The site of the corneal rupture, to the nasal side of the pole, became closed, showing a contracting scar and adherent iris when the patient was exhibited by Dr. Risley. Elsewhere, the anterior chamber was re-formed. The ball was nearly free from injection, but discolored from the conjunctival infiltration. The man could count fingers readily. Such a recovery from what had appeared at one stage to be a hopeless condition was, in Dr. Risley's experience with gonorrheal opthalmia, remarkable. For a study of the cassaripe ointment, he referred to his paper presented to the American Opthalmological Society in July, 1898.

Dr. John Turner asked Dr. Risley how long the ointment would keep.

Dr. Risley replied that if Dr. Turner would open the box he would find the salve in good condition.

Dr. William Zentmayer spoke of the uncertainty of laboratory diagnosis of gonococcal conjunctivitis, and said that the most competent bacteriologists acknowledge that they are not always able to make such a diagnosis. He then cited a case in a child on whom he had operated. Two days later there was a discharge from the conjunctival sac, and a collection of necrotic material about the field of operation, with some swelling of the lids. The discharge was grayish. It was not profuse, but free. From a smear of this discharge a laboratory diagnosis of gonococcal conjunctivitis was made. The next day the condition was worse, but not clinically characteristic. The case was sent to the Philadelphia General Hospital, where several examinations were made; yet the gonococcus was not discovered. This should not be considered an adverse criticism upon the laboratory in which the first examination was made; because Dr. Zentmayer knew of three instances in which such a diagnosis had been made, in none of which did the case prove to be gonococcal. These three examinations were made in three different laboratories. One of these patients had become perfectly well within forty-eight hours. Dr. Zentmayer said that he would defy anyone to distinguish the gonococcus from the staphylococcus morphologically, as pictured in Axenfeld's textbook. One, however, is Gram negative, and the other Gram positive.

Dr. William C. Posey asked Dr. Zentmayer whether he had considered the possibility of any of these cases having been metastatic, and said that one could find the gonococcus in smears from the eyes in such cases, even though they might run a moderate course.

Dr. Zentmayer replied that metastatic cases are usually bilateral, while infective cases are unilateral.

Dr. Risley stated that in his case it was improbable that the condition was metastatic, because it was confined to one eye. The

patient had never had gonorrhea himself, but he ascribed the infection to the use of a contaminated towel.

PULSATING EXOPHTHALMOS.

Dr. William Campbell Posey exhibited a case of pulsating exophthalmos, involving both eyes, in a man 66 years of age. This condition had arisen after a fall upon the head, and was supposed to be associated with a fracture of the base of the skull, although an X-ray plate, taken two years after the injury, was negative. Vision began to fail shortly after the accident, and gradually decreased until that of the left eye was finally equal only to counting fingers at 12 inches, that of the right eye being 1/60. The ophthalmoscope revealed the visual diminution to be dependent upon a low-grade atrophy of both optic nerves. The retinal veins were still much distended and tortuous, but no signs of present or past neuritis could be seen when the case was exhibited. There were no hemorrhages. Both eyes were moderately protosed, apparently in consequence of a distention of the orbital veins, for a mass of these vessels was easily palpable immediately under the orbital rim. This mass of vessels pulsated and conveyed a thrill to the examining finger. Both eyes were practically immobile. The right superio oblique, the right internal rectus, and possibly the inferior oblique and the left superior oblique alone functionated. Dr. Posey said that the case had been referred to the Howard Hospital for neurological and surgical study, and that it was the intention of Dr. Edward Martin, the surgeon of that institution, to ligate the carotid.

Examination of the nervous system by Dr. John H. W. Rhein resulted as follows: There was no facial paralysis observable. The tongue was pushed slightly to the right. The finger to nose test showed marked hypermetry and dysmetry on both sides. Adiadochokinesis was present in the left arm and both legs. With his feet together there was a tendency to sway and stagger backwards. Walking showed a side-stepping to the left. The knee-jerks were increased on both sides and were equal. Ankle clonus and Babinski phenomena were both absent. There was no paralysis of the arms or legs. There was a marked irregular tremor of both hands. The symptoms were considered to indicate an involvement of the cerebellum, probably in the nature of a destructive lesion occasioned at the time of the fracture of the skull, two years previous.

BRAIN TUMOR WITH CHOKED DISC.

Dr. Posey then showed a case of brain tumor with choked disc. This condition had arisen in a nonsyphilitic man, 31 years of age, a patternmaker by trade, three years previously, without apparent cause. Vision had begun to fail in the left eye four months previously, and in the right two months later. Total blindness had ensued in both eyes several weeks before the patient came for examination.

Externally there was nothing unusual, except widely dilated

pupils, the ocular movements being good, and there being no proptosis. Ophthalmoscopic examination revealed a high degree (5 to 6 D.) of papillitis in each eye, with dilatation of the blood-vessels, hemorrhages and extravasations. This case, too, had been referred to the Howard Hospital, and Dr. Posey said that it was Dr. Martin's intention to perform an immediate decompression operation.

Dr. J. H. K. Rhein, the neurologist at the Howard Hospital, reported the family history in this case negative, except that the patient's' mother had had several still-born children and miscarriages. His previous history was also unimportant, aside from the fact that since his eleventh year he had had attacks that, from the description, appeared to have been petitmal. For the last six weeks he had had occipital headaches, associated with pain in the frontal and vertical region, vomiting in the morning and vertigo, objective and subjective.

Upon examination the following condition was found: The neck was stiff, offering some resistance to rotary movements; the right side of the mouth drooped when he made an effort to show his teeth, and the tongue was slightly pushed to the right. Slight hypalgesia was present on the right side of the face. There was no weakness of the arms or legs, no tremor and no adiadochokinesis. The right knee-jerk was slight and the left absent, but both were reinforcible. There was no clonus nor Babinski sign. Dr. Rhein thought that the symptoms pointed to a diagnosis of cerebello-pontine angle tumor, showing involvement of the fifth, seventh and twelfth cranial nerves.

EXTENSIVE INJURY TO BOTH EYES FROM A DYNAMITE EXPLOSION.

Dr. Posey exhibited a patient in whom the left eye had been torn away entirely, and the right so badly lacerated that vision was reduced to light-perception. When first seen, some weeks after the accident, the conjunctiva had covered the lower half of the cornea and was adherent to a dense scar, which extended across the cornea. The lens was cataractous. The eyeball was entirely exposed by a complete entropion of the lower lid, the lid being folded back and held in its ectasic position by a broad fold of cicatricial tissue. Four operations were necessary: First, the lid was restored to its normal position by cutting away the adhesions and transplanting a broad pedicled flap from the forehead to fill in the gap left between the lid and the brow. A month later the cataract was needled and the lens afterward removed by the curette. A second needling obtained a clear pupil. Vision being still low on account of the corneal scar blocking the greater part of the pupil, an iridectomy was made, the sphincter of the iris being incised in such a way that the upper margin of the pupil was brought to within a few millimeters of the corneal margin. The corrected vision at the time of the exhibition of the patient before the Society was equal to 5/15, and the patient could read newspaper type without difficulty.

Dr. P. N. K. Schwenk spoke of a patient whom he had examined and found with an entirely normal fundus and a vision of 6/5 in each eye with a plus 1½ D. glass. A month later she complained of pain in the left eye, with which she could not see well. She was then found to require a 3 D. glass in the left eye in order to give 6/5 vision, and the same glass was also needed for the right eye, giving the same amount of vision. There was beginning swelling of the left disc, 2½ D. Dr. Schwenk notified the family physician of the patient's condition and they conducted further examinations together. The urine was negative. Two weeks before the meeting there was also beginning swelling of the left disc of about 2 D. This had increased to 6 and the right eye had 5 D. of swelling. The patient still retained 6/5 vision, but required a slightly stronger glass in each eye. The fields had just been taken and showed a limitation for white. The red and blue fields were interlacing. The patient did not have any localized symptoms other than what could be seen in the fundus. Dr. Schwenk thought that there was probably a new growth affecting the greater part of the left optic nerve and the anterior parts of the fibers of the right.

Dr. John B. Turner asked whether an X-ray had been taken of the case, stating that Dr. Schwenk had shown a case in which a brain tumor had been diagnosed from the X-ray. A decompression operation was done in this case and the tumor was not found, but there was every symptom of brain tumor.

Dr. Rhein replied that an X-ray had been taken, but that it showed practically nothing. There was no filling of the sinuses whatever.

Dr. Zentmayer asked whether Dr. Rhein meant the sphenoid sinus, and Dr. Rhein replied that he had referred to the cerebral sinuses.

THE RESULT OF AN ADVANCEMENT OF THE EXTERNAL RECTUS, AFTER THE METHOD OF O'CONNOR.

Dr. William Zentmayer said that before he described the operation he would like Dr. Schwenk to show the result.

Dr. Schwenk exhibited the patient and stated that he had had a divergence of 50 to 60 degrees. Dr. O'Connor had come to the hospital personally and performed the operation, with the result that the patient had nearly parallel fixation. The internal rectus was advanced without cutting the external rectus muscle. It was thought at the time that the operation would probably have to be done on each eye, but the result was so good that it was decided to let the case alone until it was seen what the final result would be.

Dr. Zentmayer said that the eye operated on by Dr. O'Connor for him at the same time that Dr. Schwenk's case was done was one with convergent squint of 20 degrees. The immediate results showed only 10 degrees of correction, but later, the amount of squint was lowered and the result was very good—better than any that Dr. Zentmayer had seen obtained from a single advancement

without tenotomy. While a good muscle-attachment could be secured by the Worth method, the speaker considered the rest of that procedure as faulty as any of the other modifications of the advancement operation, the weak point in this operation being the scleral attachment of the advanced muscle. For this reason Dr. O'Connor had been anxious to discover some method of shortening the muscle without having the inserted sutures under any strain whatever. He was led to devise this method by having seen the cowboys on the prairie shorten their surcingles by drawing them up between two loops of another strap. He shortened the muscle in the same way.

The first step in the operation was to lay bare the tendon of the muscle dissecting it clearly and sharply. It was then loosened with a strabismus hook, passed under it. With a hook a narrow band of the tendinous fibers was separated from the upper margin—about 1½ to 2 mm. The same was done below. Dr. O'Connor then made an incision, turning back a central flap of the muscle out of the way and leaving nothing but the two narrow bands of the tendon lying on the sclera. He next took a piece of Lukens' No. 4 20-day catgut and made a loop beneath one tendinous strip. The next step was to pass the two ends of the suture over the muscle and then through the loop. He then drew upon these two ends to bring the loop into position. The strain from the loop of catgut was transferred to the tendinous strips when the catgut was pulled upon, shortening them very considerably. He also did the same thing below. In order to avoid the hump that would be formed by tying this catgut again he took a piece of fine 00 catgut and tied it around the base. He then did the same thing below. When he laid the tongue of muscle down in position again the considerable amount of shortening obtained could be distinctly seen. This tongue was then advanced by using a single suture. The next step of the operation was to cover the muscle with a fold of conjunctiva and put in a stitch. He did not tenotomize the opposing muscle, because, as he had performed the operation only a few times, he wanted to give it a severe test. The sutures not being under any strain, the patient was allowed to go with only one eye bandaged. Dr. Zentmayer stated that Dr. O'Connor uses for this operation No. 2, No. 3 or No. 4 gut. With the latter he expects to get 20 degrees of shortening.

Dr. Posey asked how much muscle was cut off.

Dr. Zentmayer replied that none was cut off. He then stated that he had just received a letter from Dr. O'Connor, in which he had tried to explain why the immediate result had been so slight in the operation that he had performed at the Wills Hospital. He thought that he might have paralyzed the muscle fibers at the time of the operation by using a clamp on them, and that these muscle fibers had gradually recovered their tone when released from the clamp. He said that in future he would put a suture in instead of using the clamp.

Dr. Zentmayer added that the catgut must be moistened, but must not be too moist, because this would cause it to swell and make it difficult to tie.

A CASE OF LUPUS OF THE EYELID TREATED WITH A THIERSCH GRAFT.

Dr. McCluney Radcliffe presented this case because he considered it one of unusual interest. The patient had been referred to the hospital by Dr. F. J. Walter and Dr. C. C. Bahannon, of Daytona Beach, Florida. Several years ago he had been treated for a small growth on the right cheek, which was apparently cured by means of a plaster. In August, 1913, he noticed an ulcer at the inner canthus of the left eye, which was treated by cauterization and the X-ray for six months, but without improvement. Dr. Bahannon had had a microscopical examination made of the discharge by the State Board of Health of Florida and tubercle bacilli were found in it.

At the time of admission to the hospital there was a large ulcer of a dirty grayish color at the inner canthus of the left eye. It was so painful that cocaine had to be applied every few hours in order to give relief, which, even then, was not complete. The ulcer was curetted and the site covered with a very thin Thiersch graft, which united promptly. The patient had absolutely no pain after the operation. An ulcerative condition existed also on the right side of the nose near the tip. This had been curetted a week prior to the meeting, leaving a raw surface as large as a thumbnail and quite deep, over which an exceedingly thin Thiersch graft was placed. The appearance of the graft gave every indication of a perfect result.

Dr. Radcliffe also showed a case of ectropion cured by Thiersch grafts, after failure by other operations.

Dr. Risley congratulated Dr. Radcliffe on his results in these Thiersch grafts, and said that he was particularly delighted with this method, by which it was possible to get *in situ* a sufficiently thin Thiersch graft over the denuded surface. This contracted less than anything else that he knew of, and the ultimate results from its use were better than those of any procedure that he had ever tried. He stated that when these grafts do not include the true dermis they do not shrink afterwards. He had often insisted upon the technique of the operation, stating that one should avoid killing the cells by rough treatment. The grafts should not be removed from the surface of the razor until time to place them on the surface of the wound.

Dr. F. J. Walter, of Daytona, Florida, had been impressed with the healing which had taken place. There had been quite a little suppuration, and he had feared that Dr. Radcliffe would not be able to obtain so profitable a result as he had succeeded in getting. Dr. Walter thought that this success had been due to the use of a very thin graft, which had been placed in good apposition with the parts of the cavity at the time of the operation. The beautiful

result that followed had been rather a surprise to him, particularly as the ulcer had been so painful.

Dr. Henry L. Picard asked whether Dr. Radcliffe had taken into consideration the idea that the condition might be an epithelioma in these cases.

Dr. Radcliffe replied in the negative and stated that he had at first taken it to be lupus.

Dr. Picard said that he had seen cases of lupus in adolescents, but that the ulcerations on the face of a man, if the age of the patient, usually appearing on a line from the angle of the mouth to the ear, he had always been led to believe to be cancerous or rodent ulcers.

A CASE OF INTERSTITIAL KERATITIS TREATED WITH INJECTIONS OF ENESOL.

Dr. S. Lewis Ziegler showed a patient whom he understood had been in the hospital previously and had been treated with Salvarsan, the Wassermann test having been found positive. Improvement, however, had not followed the injections. Dr. Ziegler had used enesol on account of its successful use by Dr. Darier, who had injected a great many cases with it intravenously in his clinic. Dr. Ziegler had seen him inject 10 or 15 cases in a single afternoon, and, as the possibility of obtaining Salvarsan was limited, he thought it would be a good thing to try this excellent substitute for it. He stated that in this patient the eyes had been exremely irritable, but were becoming quiet, and that the cornea was claring very rapidly.

The patient had come into the hospital on the 3d of July. Dr. Ziegler said that enesol is salicylarsenate of mercury. It comes in ampules containing 1/300 of a gram, and can be used either intromuscularly or intravenously.

J. Milton Griscom, M.D.,
Secretary.

Book Reviews.

The Clinics of John B. Murphy, M.D., at Mercy Hospital, Chicago. December, 1914. Published Bi-monthly. Philadelphia and London: W. B. Saunders Company. Baltimore: The Medical Standard Book Company. Paper, $8 per annum.

This issue contains clinical talks on such topics as fracture dislocations of the spine at the level of the twelfth dorsal vertebra, pressure of the lower fragment on the spinal cord, symptoms, diagnosis, laminectomy, appendicitis in pregnancy, recurrent cholecystitis, Hodgkin's disease, sarcoma of the right tibia, excision, transplantation of bone, subsequent fracture of the transplant and development of a pseudarthrosis, secondary transplantation of bone, bilateral tuberculous epididymitis with abscess formation, resection of epididymis and vas on both sides, leaving

the testes, gummatous tumor of the testicle, perforating duodenal ulcer fixed to the anterior abdominal wall, excision of the ulcer, gastroduodenostomy, etc. Dr. Murphy states that we are still losing too many appendicitis patients. The members of the profession he holds at fault. There is no denying the facts concerning the symptomatology, course and the results of treatment; they have been thoroughly established in many clinics on a multitude of patients. He further maintains a physician has no right to hold an opinion at variance with established practice, based on a series of only 5, 10, or even 100 cases. So many able surgeons with well-organized clinics have handled and studied exhaustively thousands of cases that a man be either a transcendent genius or an egotist who dares oppose the present established views in terms other than those of numbers. He advises the removal of the appendix if the case is gotten within forty-eight hours from the beginning of the attack; later than two days from the incipiency of the attack the appendix should be allowed to wall off and go into abscess formation. The most dangerous period in which to operate in these cases he considers the third or fourth day. In any event, in pus appendix the abscess should be evacuated and the wound closed, the appendix remaining untouched. In his opinion this line of treatment gives the best results.

The Clinics of John B. Murphy, M.D., at Mercy Hospital, Chicago. October, 1914. Published Bi-monthly. Philadelphia and London: W. B. Saunders Company. Baltimore: The Medical Standard Book Company. Paper, $8 per annum.

This number, like many of its predecessors, is given over to discussions on bone and joint surgery. It is in this line that Doctor Murphy is most interested at present, and as he has been doing a pioneer work, any additional information he can throw upon the subject should be eagerly awaited by the profession. There are also articles on the use of radium and the X-rays in the treatment of cancer, imperforate anus, hypertrophy of the middle lobe of the prostate, urinary retention, prostatectomy, fecal fistula, epithelioma of glans penis, traumatic epilepsy, etc.

Child Training as an Exact Science. A Treatise Based Upon the Principles of Modern Psychology, Normal and Abnormal. By George W. Jacoby, M.D., Fellow of the New York Academy, Member of the American Medical Association and New York Neurological Society, Consulting Neurologist to the Hospital for Nervous Diseases, the German Hospital, the Beth Israel Hospital, the Red Cross Hospital, and the Infirmary for Women and Children in the City of New York, etc. With illustrations. Funk & Wagnall Company. 1914. Cloth, $1.50.

Though pedagogy and medicine are two entirely different and distinct fields of efforts, they overlap to such an extent and

are so interrelated that they cannot be absolutely separated. At first glance the points of overlapping are not apparent, but upon closer inspection the need of medicine in pedagogy is thoroughly realized. Though the former is concerned with the moral and mental development of the child and the latter with the physical, to get the best results in education there must be a healthy body. The relationship between disease and mentality as yet is only partially recognized by the medical fraternity and but slightly by the laity. This is due to the insufficient education along these lines. Yet today everybody is well aware of the stupidity associated with adenoids. Many other examples could be cited, but what's the use? It is with this aspect of medicine that the above-mentioned book is concerned. It is a field that is more or less virgin in character and one which heretofore has not been covered in a single volume. When one stops to realize that the men and women of the future are the children of today, one must be convinced if the nation is to be composed of healthy, virile people, the health of these little men and women must be conserved to the fullest extent. Heretofore only sporadic efforts have been made to correct the defects hampering school children, but today there is a well-directed wave in that direction, and the book before us is destined to still further call attention to the possibilities along these lines.

MANUAL OF OBSTETRICS. By Edward P. Davis, A.M., M.D., with 171 illustrations. Philadelphia and London. W. B. Saunders Company, Baltimore. Medical Standard Book Company. 1914. Cloth, $2.25 net.

With the number of excellent obstetrical manuals on the market, one would *a priore* conclude there was no necessity for the book before us. Owing to the many changes in obstetrical knowledge during the past few years, the above conclusions do not hold. Especially is this the case because the above volume is written from a clinical standpoint, a viewpoint not taken by most of the other smaller books on obstetrics. Every aspect of obstetrics is fairly well covered, most emphasis, however, being laid on diagnosis and treatment. It is this portion of obstetrical literature which is most needed and sought after by the general practitioner. As a consequence, this book should prove a welcome and useful addition to their libraries. Besides discussing the anatomy and physiology of the female generative organs, pregnancy (diagnosis, physiology, hygiene, maternal and fetal pathology of pregnancy), labor, the physiology of labor, the conduct of labor, etc., it enters into a sufficiently fulsome narration on the normal puerperal period, care of the normal infant, obstetric surgery, etc. It is a practical little book, full of helpful information, and when used in conjunction with classroom work should prove invaluable.

PRACTICAL THERAPEUTICS, INCLUDING MATERIA MEDICA AND PRESCRIPTION WRITING, WITH A DESCRIPTION OF THE MOST IMPORTANT NEW AND NON-OFFICIAL REMEDIES PASSED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION. By Daniel M. Hoyt, M.D., formerly Instructor in Therapeutics, University of Pennsylvania; Fellow of the College of Physicians; Assistant Physician to the Philadelphia General Hospital. Second Edition, Revised and Rewritten. St. Louis: C. V. Mosby Company. 1914. Cloth, $5 net.

The beauty of this book is that at a glance the reader can get the physiological action, the toxicology and the uses of the drug under consideration. It also contains a description and the use of all new and non-official drugs that have been passed upon by the Council of Pharmacy and Chemistry of the American Medical Association. Besides these very decided attractions it contains a therapeutic index, a welcome addition to the busy practitioner. This is one of the best books we have seen from the publishing-house of the C. V. Mosby Company. The arrangement of the drugs, according to their physiological action, is ideal, and we believe will best serve the interests of the busy practitioner. For thereby he can with the least loss of time get the information he desires. It gives us great pleasure to heartily recommend the volume to our readers as a thoroughly reliable and trustworthy guide in matters pertaining to present-day therapeusis.

WORRY AND NERVOUSNESS; OR, THE SCIENCE OF SELF-MASTERY. By William S. Sadler, M.D., Professor of Therapeutics the Post-Graduate Medical School of Chicago; Director of the Chicago Institute of Physiologic Therapeutics; Fellow of the American Medical Association; Member of the Chicago Medical Society, the Illinois State Medical Society, the Press Club of Chicago, the American Association for the Advancement of Science, etc. Illustrated. Chicago: A. C. McClurg & Co. 1914. Cloth, $1.50 net.

The book before us is devoted to a concise and systematic presentation of the treatment and management of the various nervous maladies. It is written in a more or less popular style so as to make it available to both the profession and laity. It is therefore as far as compatible devoid of technical terms. This feature, however, is not a drawback, as it makes the content more readily assimilable to those members of the profession not in touch with modern nerve treatment. The physiological and psychological phases of functional nervous maladies are merely touched upon, most attention being given to therapeutics, especially to the details of the treatment and practical management of the neuroses, alcoholism, migraine, neurasthenia, exaltations, depressions, etc. The book is somewhat out of the ordinary and should prove of immense help in directing the treatment of those disorders with which it deals.

Maryland Medical Journal

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BALTIMORE, JANUARY, 1915

SEX EDUCATION.

This is the day of eugenics, the Society of Moral Prophylaxis and a host of other associations dealing with matters sexual. The question naturally arises, Are these movements for the better or worse? Do they accomplish the purpose which they set out to or not? Have they a corrupting or a beneficial influence? If one stops and considers that medical students with their knowledge of the venereal infections will subject themselves to the possibility of contracting lues or gonorrhoea without the apparent least hesitation, one becomes pessimistic and concludes that the energies of these societies are wasted, its seed sown in barren ground. But, on the other hand, when one stops and reflects, the thought comes, Has any beneficient movement at the outstart accomplished its purpose? It is only after years of agitation that good grows out of these movements. Education, and more education, is indeed necessary before the idea begins to seep through the masses that there is a particle of good in the movement, and one day in the dim future one awakes to find that the idea has indeed taken hold, that the seed is germinating, that the community is alive to the necessity for a change of viewpoint. Though only in its incipiency, undoubtedly these educational movements concerning the sexual side of life have accomplished good, and one cannot predict at this time the benefits which are to arise out of them in the future. Mistakes have undoubtedly been made, and more will be. But one learns by mistakes to avoid them. Broadly speaking, the child should be

informed, and at a comparatively early period, by his parents concerning the proper care of the body, the anatomy and physiology of the sexual organs, the diseases to which they are heir, and, above all, how to avoid evil consequences thereto. Sooner or later the child will absorb this knowledge from the corner gang, obscene literature or observation. Which is, therefore, the better method for him—to be discretely and reverently informed by his parents or vulgarly by his companions? For the child's best interests, undoubtedly by the parents. This is one form of effort the sexual educators are developing, and a form which should be fraught with good potentialities. Wile in the Albany Medical Annals says: "In so far as the fundamental facts in sex education are to be acquired previous to school age, it is manifest that the responsibility for laying this foundation rests upon the home. Attempts to arouse the parents through the medium of the school would undoubtedly awaken their consciences so that they would respond to the appeal to give the necessary facts along the lines suggested by capable teachers. Parents are particularly capable of giving natural instruction, once they appreciate their opportunities for natural instruction in view of their familiarity with the vocabulary of their children, their companions, and their general experiences." The ethical lessons involved in sex education assume the utmost importance. Considered from the standpoint of biological development, physical education, civics and ethics, the high school may afford definite instruction upon the meaning of puberty and the relation of the sex instinct to personal success and physical health. The wider problems of the relation of chastity to family welfare, eugenics and racial advancement can be discussed without equivocation, providing that undue stress is not placed upon the venereal diseases and other pathological phases of the subject. To seek to inspire fear and to establish character upon this principle is poor pedagogy. The attempt must be made to constructively create a desire for clean living and self-control on the basis of a positive knowledge of the essential values of sex facts. The dangers of sex education in the high schools are practically negligible, provided the instruction is placed upon a high biological, ethical and social plane. This is a problem of education which has been neglected. As education is for the purpose of imparting useful knowledge, this feature should no more be neglected than mathematics, spelling, or any other supposedly necessary study.

Medical Items.

The dedication of the new South Baltimore Eye, Ear, Nose and Throat Hospital, Light street near West street, took place with appropriate ceremonies November 14. The erection of the new hospital was made possible by a gift of $10,000 by Mr. William Grecht. It is one of the finest of its kind in the country. There are 20 private rooms and ward accommodations for 20 more beds. Wards have also been arranged for negro patients entirely separate from the white wards. A spacious roof garden occupies half the roof of the building, and both the second and third floors are fitted with large porches in the rear, which face a grove of trees in the big yard.

An operating suite of five rooms occupies a portion of the third floor. The operating-room itself is illuminated by three 500-candle-power lights, installed on the indirect system. These lights make the room brighter than if flooded by sunlight, and yet the indirect method prevents the casting of any strong shadows.

The new building and the old hospital, which will now be fitted up as a nurses' home, are heated by steam and the same set of boilers is used for sterilizing and similar work connected with the hospital. On the first floor are rooms prepared for dispensary treatment.

One of the features of the new building is that only the window frames and the floors of the resident physician's suite, which is on the first floor, are of wood, the remainder of the building being of concrete and steel, with composition flooring. An elevator operated by electric buttons has been installed.

Dr. David Edward Duff has taken an apartment at the Latrobe Apartments for the winter.

Dr. W. T. Willey has moved to his new home in Guilford. He formerly resided on St. Paul street.

Dr. and Mrs. Roland B. Whitridge have returned from their wedding journey and are occupying the residence 1208 St. Paul street.

The new diet kitchen which has been presented to the Hebrew Hospital by Mr. Wm. M. Benesch, was formally turned over to the hospital on November 25. The gift was accepted on the part of the institution by Dr. Harry Adler, president of the hospital board. The kitchen is equipped for the preparation of special foods, and is also a school for the instruction of nurses in training in the science of dietetics.

The *Dietetic and Hygienic Gazette,* which is just completing the thirtieth year of its existence, has been purchased by the Critic and Guide Company, and beginning with January, 1915, will be consolidated with the *Critic and Guide,* and the combined journals will be under the editorship of Dr. William J. Robinson. The offices of publication are at 12 Mt. Morris Park, W., New York city.

Miss Grace Elma Uhler, daughter of the late Dr. John R. Uhler, of 1212 Bolton street, Baltimore, desires to announce that she is prepared to take notes or translate from French and German books, pamphlets, etc., into English, and would appreciate work from the physicians. She was recently located at 1615 McCulloh street.

Dr. Franklin P. Mall, professor of anatomy of Johns Hopkins Medical School, has been appointed head of the new department of embryology of the Carnegie Institution in Washington.

It is not likely that Dr. Mall will sever his connection with Johns Hopkins University to pursue his new work. With his wife he recently returned home from Europe. They were in Heidelberg when war was declared by Germany.

Dr. Mall is a graduate of the University of Michigan, class of 1883. He became instructor in pathology and bacteriology at Johns Hopkins in 1888. In 1889 he resigned from Hopkins and became a professor of anatomy at Clark University, 1889-1892.

At a recent meeting of the Prince George's County Medical Society the following officers were elected for the ensuing year: President, Dr. H. B. McConnell of College Park; secretary, Dr. M. S. McMillan of Riverdale; treasurer, Dr. W. A. Griffith of Berwyn, Md.

Drs. Thomas F. Keating and Roland E. Wynne, formerly resident physicians at Mercy Hospital, have received appointments in the United States Public Health Service as assistant surgeons. They resigned from the staff of the Mercy Hospital last May.

Dr. Lloyd Warren Ketron, Johns Hopkins Medical School, 1911, announces the opening of offices in the Buckler Building, 529 North Charles street. His practice is limited to dermatology. Office hours, 11 to 1.

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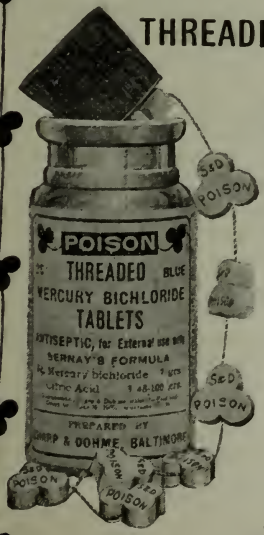

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made in Baltimore and accompanied by an illustrated lecture was given at the December meeting of the University of Maryland Medical Society, which met on December 3 in Chemical Hall. The lecturer was Dr. Lewis Gregory Cole, chief of the X-ray department of Cornell University, New York, who lectured on "The Negative and Positive Diagnosis of the Stomach and Duodenal Cap." Dr. Cole is a rare genius in his chosen field and has worked with facilities at his command which have arisen from an unlimited expenditure of money. As a result of his exhaustive study, new light has been shed and valuable lessons may be learned from it and from his conclusions.

More than 800 persons crowded the university in an effort to see these pictures, but about 200 had to be turned away for lack of space. For an hour, between noon and 1 o'clock, and again from 8 to 9 o'clock, the moving pictures, which were enlarged to impressive proportions, continued to sweep across the screen, showing all the different movements of the living human stomach, how it acts when healthy and how its actions are interfered with by various ailments.

Dr. Albert H. Carroll recently entertained informally a number of out-of-town guests at the Baltimore Athletic Club. Among those present were Dr. Lewis Gregory Cole of Cornell, Dr. Gerry Morgan of Washington, Dr. Clement Jones and Dr. Mercur of Pittsburgh, and Captain Cristy of the Army X-ray Museum in Washington.

MARRIAGES.

Cleveland D. Whelchel, M.D., University of Maryland Medical School, 1913, of Gainesville, Ga., to Miss Mary A. Rutherford of Winchester, Va., at Baltimore, November 23, 1914. After a wedding journey the couple will reside in Gainesville.

John E. O'Neill, M.D., University of Maryland Medical School, 1910, to Miss Catherine Agnes Thurman, both of Baltimore, Md., at Baltimore, November 23, 1914. Dr. O'Neill has charge of the tuberculosis dispensary work for the Health Department.

William Alexander Boyd, M.D., of Baltimore, Md., to Miss Harriet M. Shannon of Washington, D. C., at Washington, November 4, 1914.

Charles R. Austrian, M.D., Johns Hopkins Medical School, 1909, to Miss Florence Hochschild, both of Baltimore, Md., at Baltimore, December 7, 1914. Dr. Austrian is professor in Johns Hopkins Medical School and connected with the hospital.

H. H. Flood, M.D., Baltimore University School of Medicine, 1896, of Baltimore, Md., to Miss Adelaide Selby of Howard county, Md., at the residence of the bride's parents, Ivory, Howard county, November 24, 1914. Dr. and Mrs. Flood will reside at the Gilman Apartments, Baltimore.

Hugh Warren Brent, M.D., University of Maryland Medical School, 1903, to Miss Helen R. Vogeler, both of Baltimore, Md., at Baltimore, December 16, 1914. Following a wedding trip spent in the South, Dr. and Mrs. Brent will reside at 2124 Maryland avenue, Baltimore.

Jesse Wright Downey, Jr., M.D., to Miss Mary Lee Willis, both of Baltimore, Md., at Baltimore, November 7, 1914.

DEATHS.

Charles Irving Stotelmeyer, M.D., University of Maryland Medical School, 1892, of Hagerstown, Ind., a member of the Indiana State Medical Association, died in the Reid Memorial Hospital, Richmond, Ind., November 12, 1914, after a surgical operation, aged 55 years.

George Washington Boyd, M.D., College of Physicians and Surgeons, 1895, a Fellow of the American Medical Association and proprietor of several drug stores in Washington, died at his home in that city November 21, 1914, from nephritis, aged 55 years.

Alexander Donaldson McDonald, M.D., Washington University School of Medicine, Baltimore, 1877, a member of the Medical Society of the State of North Carolina, died at his home in Wilmington, N. C., November 7, 1914, aged 82 years.

Joseph Muse Worthington, M.D., University of Maryland Medical School, 1872, a member of the Medical and Chirurgical Faculty of Maryland, died at his home in Annapolis, September 21, 1914, aged 68 years.

Samuel J. Hoffman, M.D., University of Maryland Medical School, 1877, a member of the Medical Society of Virginia, died at his home in Woodstock, Va., from carcinoma, aged 62 years.

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SYSTEMIC INFECTIONS FOR WHICH THE TONSIL IS HELD RESPONSIBLE AND CONTROL OF HEMORRHAGE DURING TONSILLECTOMY.*

By M. M. Savage, M.D.,
Baltimore, Md.

I MUST begin with an apology for presenting a paper on a subject about which so much has been said and written within the last few years. But the fact that in 1912 there were 37,000 recommendations made in Philadelphia by school inspectors to parents that their children had hypertrophied tonsils and that these organs should receive immediate attention, and that in New York city in the same year 30 per cent. of 825,000 examined by the medical inspectors were thus afflicted, and since on such common ailment there is a difference of opinion, even among the specialists, as to the mode of procedure, I take courage to add another paper to the many that have been written lately, taking the stand that we owe to humanity, as well as to ourselves, to know exactly how we stand on the tonsil question.

The tonsils consist of the lymphoid masses, held together by trabeculae of fibrous connective tissue, which divide and subdivide the tonsillar tissue. The free or faucial surface is covered by mucous membrane of the mouth, which is stratified and similar to the epithelium of the surrounding tissues; the same epithelium also covers the major part of the crypts, but becomes modified early in life when the lymphoid activity is at its height. The crypts are tubular depressions, some of which run horizontally, some vertically upward into the supratonsillar fossa, and a few run downward and are covered by the plica triangularis. Of these crypts there are altogether about 15; they are irregular, some forming pockets and containing besides cellular debris, food particles and various pathogenic micro-organisms. The

*Read at the meeting of the Baltimore City Medical Society, December 18, 1914.

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parenchynea of v. tonsil is made up of germinating follicles and the interfollicular tissue.

The supratonsillar fossa is the space between the superior pole of the tonsil and the superior angle of the sinus. Each tonsil lies in a recess called the sinus tonsillaris, or tonsillar fossa, on either side of the fauces formed by the palatal arches. Anteriorly, it is bounded by the anterior faucial pillar (palato glossus) and posteriorly by the posterior pillar (palato pharyngeus muscle). On the other side it is attached by a fibrous membrane to the capsule which surrounds the tonsils except on its interior and exposed surface. From this membrane the fibrous trabeculæ divide the tonsils into lobes.

There are two types of tonsils: the pedunculated tonsil, sometimes mistakenly called hypertrophied tonsil, which is attached by a small base to a shallow sinus, and the whole tonsil is exposed and appears prominent. The second is the buried tonsil, or the submerged tonsil, which has a broad base and which does not extend beyond the plane of the pillars. They are often deceiving, as they may be considerable size, which is only apparent during an operation by pulling them inward with a vulselleum, or when the patient gags. Moreover, it is with this type of tonsil that is frequently the seat of disease.

We find a number of lymphocytes advancing toward the crypts and separating the epithelial layers. A number of follicles surround the crypts where there are dense masses of lymphocytes and lymphoblasts, or mother cells, which show mitotic figures; polymorphonuclear cells are also in abundance and a few plasma cells.

The function of the germinating follicles is the production of lymphoid cells which are probably the mother cells of the leucocytic group. G. B. Wood also believes that the interfollicular tissue is the pathway through which the lymphoid cells gain access to the efferent lymphatics, and that there is a direct change of the epithelial cells of the crypt into lymphoid cells.

Blood Supply.—The tonsils are very vascular, receiving their blood supply from the tonsillar and palatine branches of the facial, from the descending palatine branches of the internal maxillary, from the dorsalis linguas and from the ascending pharyngeal. Either the descending palatine or the ascending branches give rise to copious hemorrhage during a tonsillectomy.

Veins.—The veins of the tonsils form a plexus in the walls of the sinus. The largest of the plexus is seen upon removal of the tonsil superficially in the tonsillar fossa.

Davis, who has done considerable research work on the anatomy of the tonsils, claims that the arterial branches do not at all perforate the wall of the fossa, nor do they eventually reach the tonsil itself. Thus the tonsillar artery anastomoses with a branch from the dorsalis lingua and supplies the plica triangularis and the muscles entering into the formation of the wall of the lower half or two-thirds of the tonsillar fossa. The tonsillar branch of the

ascending pharyngeal sends twigs into the upper part of the wall of tonsillar fossa, but, like the tonsillar artery, they do not pass through the muscular fibers, through the capsule and into the tonsil itself. Thus there remain two arteries, the ascending palatine branch of the facial and the descending palatine branch of the internal maxillary from which by anastomosis outside the fossa a single artery is formed that enters the fossa at its superior extremity, passes downward between the capsule and the muscular aponeurosis for a distance of about half an inch before penetrating the capsule to reach the tonsil.

Lymphatics.—While no afferent lymphatics leading to the tonsils have been shown, experiment would indicate their presence. Lexer injected inert coloring matter into the turbinates and found them later in the tonsils. Henkl found the coloring matter in the tonsil after injecting it in the gums. Frenkel has called attention to the frequency with which auto infections in the nose are followed by tonsillitis.

The efferent lymphatics play an important role as portals of entry to general infections. According to Wood, they pass through the fibrous trabeculae and the capsule, pierce the superior constrictor muscle of the pharynx and empty into the tonsillar gland, one of the superior deep cervical nodes lying under the anterior border of the sterno-cleido mastoid muscle. The anterior chain of the deep cervical glands lying just under the anterior border of the sterno-mastoid receive their afferents from the tonsil at the base of the tongue, from the submaxillary and submental nodes. Grober's experiments on animals showed that the supraclavicular glands form the connecting link between the upper deeper cervical nodes and the apical pleura, and that inflammatory adhesions may extend the infection to the apices themselves. Wood states that the supraclavicular group only rarely receive afferents from the upper cervical glands, the afferents of which gradually converge and form the jugular trunk, which empties into the subclavian vein at its junction with the internal jugular. According to the same authority, tubercular infection may reach the apices, either by the supraclavicular route or occasionally through an inconstant gland of the upper anterior group which is sometimes found in the notch formed by the junction of the internal jugular and subclavian veins, and it is very closely placed to the parietal pleura of the apex. In view of the frequency with which primary tuberculosis of the tonsils occurs, the existence of this possible line of invasion between them and the lungs assumes a clinical importance. That this mode of pulmonary infection is frequent, however, is doubtful.

Functions.—As to the functions, there are two factions—those who attribute to this organ so many important functions or few of such great importance that they would prohibit the removal of the tonsils almost under any circumstances. The opposite faction, on the other hand, claim that the tonsil is a worthless organ and place it in the same class with the appendix; that the only good it does is

to give revenue to the throat surgeon. The matter of fact is that the truth lies somewhere between the two extreme opinions.

The hemopoietic theory that the tonsil is a blood-forming organ rests on a sound basis. Stoehr first discovered the constant migration of lymphocites from the interior of the tonsil to the periphery. Stoehr's phenomenon. It has also been shown that the leucocytes originate in the germinating centers of the follicles.

Some observers claim that the tonsil has a function of internal secretion (Massini) similar to the adrenals, but it is disclaimed by other investigators. Protection theory. Much has been written about the protective function of the tonsil, constituting, as it were, the first line of defense against microbic invasion similar to the functions of other lymph glands in the body, attacking and arresting pathogenic bacteria. Moreover, it is claimed that in the protective function the tonsils are aided by the phagocytic action of the lymphocytes.

A great deal has also been claimed that the tonsils protect the body against bacterial invasion (Galland, Goerke and Brieger), a quality in common with the lymphatic glands of the body. The migration of cells toward the oral cavity per se is claimed to have a strong protective influence against bacterial invasion. The protective work is further augmented by the large number of polymorphonuclear leucocytes, which make their way from the blood vessels to the surface of the tonsils.

The Immunity Theory.—Some, again, would make us believe that the tonsils, with their crypts, constantly containing large numbers of pathologic organisms, protect the body from a general infection by a process of auto-vaccination.

The tonsil is also credited with acting as a lubricant in moistening the bolus of food.

Of these theories, the first mentioned, that a tonsil is a blood-making organ, only deserves recognition, since the other theories rest merely on speculation. The functions of the tonsil, per se, as an organ of protection against microbic invasion, if it has any at all, it must be insignificant, for the upper respiratory organs are well protected. According to Ballenger, these functions are performed by the—

a. Bactericidal properties of mucous secretions.
b. The epithelial covering of the mucous membrane.
c. The lymphatic tissue composing the tonsillar ring.
d. The cervical lymphatic glands.
e. The bronchial lymphatic glands.
f. The endothelial lining of the blood and lymph vessels.
g. The serum of the circulating blood.
h. The leucocytes.

I will repeat here the words of Harry A. Barnes, who recently wrote a book on the tonsils: "From the clinical standpoint the function of the tonsil has its most important application to the question of operative procedure, whether a partial or complete removal is to be recommended when symptoms demand operative

interference. The advocates of tonsillotomy have ever had visions of the possible loss of some unknown function indispensable to the individual, which would inevitably follow the removal of the tonsils. In spite of the fact that, of the countless number of tonsilectomies done during the last few years, not one has been shown to have had any untoward result that could be attributed to the loss of any possible functionating power; in spite of the fact that the histologic structure of the tonsils show plain that their function, whatever it may be, is identical with that of the other lymphoid nodules of the body, and therefore one that would no more be missed in its removal than the function of a small area of skin would be missed. In spite of all this, the old inadequate tonsillotomy, or worse still, galvano cautery application to the crypts, are still done by many men because of a phantom function of the tonsil. On the other hand, the idea that the tonsil has no function has led in many quarters to the condemning of all tonsils that show their heads, so to speak, beyond the faucial pillars, even when no symptoms are present. It is difficult to say which attitude is productive of the more mischief. On the one hand, many patients are allowed to suffer the ill-effects of chronic toxic absorption or of recurring acute inflammatory conditions, when a simple enucleation is all that is necessary to give them complete relief, while, on the other hand, perhaps a much larger number of patients are put through a needless operation which a more careful study of the individual case might obviate. The tonsils should by all means be respected as a functionating organ, especially in children, and should never be removed without adequate cause. But when such case exists, the loss of the functionating power should not be used as an argument against their complete extirpation." Jos. C. Beck, J. A. M. A., November 7, 1914, concludes his paper of "Chronic Local Infection of the Nose, Throat, Mouth and Ear" by stating: "From my own experience, I am sure I have done very little, if any, harm by the removal of the tonsils and adenoids, and I am sure that I have done considerable good."

As it is not the intention of the essayist to treat the pathology of the tonsil, I shall but briefly mention the pathologic organisms frequently found in this organ and the systemic diseases for which they are responsible.

That bacterial flora should find an ideal field in the tonsils is self-evident on account of the anatomical peculiarities of the crypts, which are deep, tortuous and constantly contain cellular debris, food particles and having poor drainage. Several strains of streptococci are found in the crypts, even in the healthy tonsil, and of the two varieties found, the streptococcus hemolyticus is prevailing and is responsible for deep abscesses and joint lesions, and the streptococcus viridans, next in frequency, a surface growth, are supposed to be responsible for attacks of endocarditis. The streptococcus epidemicus has been found in the tonsil during epidemics of septic tonsillitis, which we had here in Baltimore three years ago. Dr. Bordley of our city has done some research work

on the tonsil from the standpoint of bacteriology, and I will quote from his report of 1910: "Culture from tonsillar crypts of 31 patients from the ages of 17 hours up to 70 years, all were infected. Staphylococci were present in all of them, 20 of which showed no signs of disease; the other 10 were atrophic; they also showed other pathological organisms, like streptococci and some pneumococci. Inoculations with bullion cultures from crypts into rats and guinea pigs were carried out to determine whether recovered organisms had undergone any special change which made them less dangerous than organisms ordinarily found in the mouth. Control cultures grown from the saliva of the same individual and from the saliva of patients whose tonsils had been completely removed were also used. In all, 14 animals, with a total of 20 inoculations, were employed. The one striking point in these experiments was the non-virulency of all the cultures. The only animals to die were those inoculated with cultures grown from the crypts of tonsils that were clearly diseased, those with cysts, hyperkeratosis and advanced atrophy. There seemed to be no relationship between the virulence of organisms in the tonsillar crypts and those in the saliva, as shown by the fact that even in the cases where death resulted from injections of cultures from diseased tonsils, cultures grown from the saliva of the same individual proved harmless. The behavior of cultures in the same medium with and without tonsillar tissue properly prepared was the same, nor was there any difference in the result of inoculations, showing that the tonsil does not, either through secretion resulting from interstitial changes or through some bactericidal power exhibited by the crypt epithelium, inhibit the action of bacteria."

Drs. Smith, Barrett and Middleton, in their paper, "Endameba buccalis" (J. A. M. A., November 14, 1914), have shown in their researches in the pathological laboratory of the University of Pennsylvania that the parasitic amebas of the mouth hold an important relation in the etiology of pyorrhea alveolaris, and that by the use of emetin as an amebacide these organisms may be destroyed and the pyorrheal lesions cured. They have also shown that these parasites frequently involve the tonsils and cause local and probable systemic infections, judging from the fact that not only the local symptoms, but also the general complications, such as anemias and joint lesions, promptly cleared up by the administration of emetin hydrochloride. It looks as if their work might lead to important discoveries. Attacks of follicular tonsillitis are usually brought about by auto-infection, due to lowered resistance.

Primary tuberculosis in the tonsil has been found in about 61 per cent. examined, and Dieulofoy, by injecting tonsillar material into animals succeeded in producing tuberculosis in 8 of 61 cases (12 per cent.). Straussman examined the tonsils from 21 cases of tuberculous cadavers and found tubercular tonsils in 13.

The Relation of Tonsils to Systemic Infections.—Among the general infections for which the tonsil is held responsible are chronic arthritis, endocarditis, pericorditis, chorea, acute and

chronic nephritis, neuritis, osteomylitis, appendicitis, peritonitis, cerival adenitis and chronic toximias. What medical practitioner has not seen rheumatic arthritis and endocarditis following attacks of tonsillitis, and who has not seen improvement or cessation of attacks of joint conditions following the removal of the tonsils? I am engaged just now to do a tonsillectomy on a young man who had a severe attack of nephritis, following a mild case of tonsollitis about a year ago, and a repetition of the same trouble following another attack of tonsillitis a month ago. About two years ago an intimate friend of mine lost his only daughter, 13 years, from endocarditis following a mild attack of tonsillitis, which amounted just to a little soreness of the throat. About four years ago I saw a girl, aged 16, who had an attack of tonsillitis followed two days later by classical symptoms of appendicitis. A year prior to this she had exactly the same experience. Pediatrists and neurologists will tell you how often cures of chorea follow the removal of the tonsils.

SYSTEMIC INFECTIONS.

In 1910 Loeb (acute nephritis following acute tonsillitis read before the Am. Lar. Rhin. and Otol. Soc.) said: "Acute nephritis results from acute tonsillitis far oftener than is generally believed."

D. J. Davis (Chr. Streptococcic Arthritis, J. A. M. A., September 6, 1913) reported the result of his observation of 42 cases of chronic streptococcic arthritis. In all of these cases the source of infection was in diseased tonsils.

F. Theisen (Albany Med. Onn., 1913) reported six cases of acute thyroiditis following tonsillitis.

Dr. Ben Witt Key (Opthalm. Record, June, 1914) speaks of absorption from tonsillar infection as a causative agent in phlyctenular conjunctivitis.

Norton L. Wilson, in *J. A. M. A.*, November, 1914, reports four cases of nephritis and four cases of rheumatic fever following typical attacks of tonsillitis. In six of these cases the tonsils were removed and prompt cures followed. One nephritis case died of acute septic endocarditis.

Dr. Bordley, in his article, "Arthritis Associated with Infection of the Nose and Throat," recently read at the convention of the Southern Medical Association, reports 32 cases of (a) arthritis deformans, 8 of which were apparently cured, 6 benefited, 12 somewhat benefited but later relapsed and 6 unimproved. Of the 8 cured cases, all had the tonsils removed, besides the sinus exenterations. One showed no improvement until after tonsillectomy. (b) Chronic arthritis with acute exacerbations. He reports 49 cases of a total of 82. In 12 of the 19 cures no benefit was recorded until after the tonsils were removed. (c) Acute rheumatic fever. Reports on 112 cases, with 79 cures. In every successful case the operation performed was tonsillectomy. In 16 diseased conditions were discovered in the nose and carefully eradicated without result on the joints, which subsequent tonsillectomy brought complete relief. In the 79 cases reported as cured, 61 had previous to the primary

rheumatic attack been operated upon, in 61 clipping tonsillectomies, and in 34 cauterization of the tonsils.

Then we often see chronic toxemias of tonsillar origin. The patient suffers from general malaise, is easily fatigued, often anemic and poorly nourished, is under weight, and presents gastro-intestinal symptoms, coated tongue and the fetor oris of the atrophic tonsil with which every one of us is familiar. The proof that the tonsil is responsible is the fact of its presence and the improvement of the general condition of the patient following the removal of the offending organ.

What laryngologist has not seen acute and chronic ear conditions caused and kept up by large or diseased tonsils? Not alone will suppurative ear and nose conditions often be cured by removal of tonsils, but a suppuration quite distant from the tonsils, as, for instance, in the bladder or uterus, will markedly improve or be cured by raising the resistance of the patient. (J. C. Beck.)

I will even not attempt to quote pages of reports of general infections of tonsillar origin, as whole books could be written on this subject alone. I shall briefly enumerate the indications for tonsillectomies.

In the first place, whenever you have large adenoids, with even small tonsils, when they show some evidence of disease.

2. Recurrent attacks of tonsillitis or peritonsillar abscess.

3. Hypertrophied tonsils when they are large enough to cause improper oxygenation.

4. In ear complications.

5. In impairment of voice and speech.

6. Systemic infections, like arthritis, endocarditis, chorea, nephritis, etc.

7. Chronic coughs, bronchial affections and interference of general development of the child.

8. Enlarged cervical glands.

Tonsillotomy is an operation of the past. The only possible excuse for the tome is simple hypertrophy. As a matter of fact, nose and throat specialists have disregarded it entirely in favor of complete enucleation in capsule.

The operation, however, has fallen into disrepute, and I can give three reasons for it: 1. The tonsil has often been removed when there were no indications, either due to mistake in judgment or as a matter of revenue, and this very fact brought about the publications of articles like "The Massacre of the Tonsils," by Dr. Mackenzie of this city, about two years ago, and "The Use and Abuse of the Tonsils," by Dr. Comroe, in the *Jour. of the A. M. A.*, October 17, 1914. 2. Either tonsils regenerate after their supposed removal, or the symptoms for which the enucleation has been done return. 3. The danger of the operation.

In answer to the first argument against operation, I would say that there must be clear indications for a tonsillectomy before it is undertaken, and these indications I have already enumerated. It is no use wasting words on a charlatan who will remove tonsils

for revenue only, as we unfortunately find the same type among general surgeons who will do an appendectomy for the same reason. There can be no recurrence of local symptoms like tonsillitis or peritonsillar abscesses or a return of systemic conditions when the tonsil was completely enucleated in the capsule.

About the dangers of the operation I will admit that it is a major operation, and in the hands of the careless and inexperienced it may assume dangerous proportions. Therefore, this operation should not be done by a general practitioner and one who has had no experience along this line. Moreover, it should not be attempted by one who cannot cope with the emergencies arising during the operation, the chief of which is hemorrhage. Unfortunately, general practitioners without surgical training and previous experience in throat surgery will often undertake a tonsil operation, whereas they would not dare undertake any other major operation, and they are the very ones to meet with emergencies, and, not being able to cope with them, bring discredit on this operation. A number of fatalities from hemorrhage have been reported, and many more have failed to reach publicity. We have had several deaths from this source in Baltimore within the past few years, and each case was well advertised throughout the city and not so soon forgotten. And this is not surprising, if you bear in mind that the causes for which patients are subjected to this operation are not always a matter of life and death, at least not so in the eyes of the friends and relatives, and the shock to them is greater should death follow an operation of this nature than it would be in cases of other major surgical operations.

I wish to report to you in brief what other authorities have to say on the question of hemorrhage. Vincent Dabney (Candidates Thesis, American Laryngological Association), *Annals of Otology and Laryngology*, says that although he never had or saw a fatal hemorrhage following an operation on the tonsils, he has been profoundly alarmed at several of his own cases, and has seen cases that resisted the skill and dexterity of experienced operators. He further remarks: "The sinister and disconcerting fact is, in my mind, that patients have died from this cause." A colleague told him of a fatal case in a girl of 15 from steady oozing until she was exsanguinated. E. A. Crockett (*Boston Medical and Surgical Journal*, March, 23, 1911) says that he considered hemorrhage a serious matter; that in one year and a half 12 deaths from hemorrhage have been reported in and about Boston, and that he believes that many more have not been reported. In addition to the 12 deaths, he recalls many serious hemorrhages, one requiring ligature of the common carotid after the scissors enucleation, and two deaths in two minutes following a sharp dissection with the scalpel. Lindley Sewell (*Medical Chronicle*, Manchester, July, 1911) was able to find reports of 19 deaths and 50 severe hemorrhages, which were controlled. Pfingst (*A. O. Laryngoscope*, July, 1911) observed a hematoma in the pharynx as a result of suturing the pillars over a pledget of gauze to control a hemorrhage which began

eight hours after the operation. Stucky reports a death from exsanguination a few hours after the operation, and nine cases of secondary hemorrhage which required a second anesthesia and ligation and suturing the pillars.

Now a few words on the obsolete recommendations of some men to control bleeding in tonsillar operations. For instance, Gerhard Hutchinson Cocks (*Medical Record,* June, 1912) on "Tonsillar Hemorrhage: Cause, Prevention and Treatment," states: "Post-operative bleeding is often stopped by slapping the face vigorously with a towel wrung out in icewater for a few minutes immediately after the operation. The bleeding usually stops after the appliance of a Miculicz or Hurd tonsillar hemostat, or if the bleeding point cannot be found, after pressure of a sponge saturated with gallic or tannic acid for a few minutes. If these measures fail, the author uses Michel's metal clamps, after filling the tonsillar fossa with gauze wet with gallis or tannic acid or powdered thrombokinase."

Howard Dutrow (*Laryngoscope,* May, 1912) is more progressive: "To control hemorrhage, use some hemostatic agent, such as a strong solution of silver nitrate, adrenalin, etc., together with pressure and ice cap to each side of the neck. Seize the bleeding points with artery forceps and tie if these measures fail."

It is more strange that the up-to-date textbooks on the nose and throat recommend these antiquated methods, and advise the tying of blood vessels as a last resort prior to ligation of the external carotid when the hemorrhage becomes serious or alarming.

The best articles I have come across in my search of literature on this subject are, one by Dr. Lee Cohen of our city, which was written four years ago, and who, by the way, was the first to advocate the ligation of bleeding vessels in a tonsil operation, to my knowledge, and a recent article by Dr. Davis in the *Laryngoscope,* March, 1914. I shall quote freely from the last article. He states: "No tonsil can be enucleated by any method without the severing of certain blood vessels, and any severed vessel affords always a possible source of hemorrhage. Those authors who state that 'if' bleeding points can be seen they may be seized, etc., have erred in the admission of the 'if,' for I believe that with the rarest exceptions definite sources of all hemorrhage can be localized and effectually controlled. It was the localizing of this fixed source of all severe hemorrhage that led me to abandon the pillar suturing process for the simpler and safer technic. It matters not, however, where the vessel be severed at its entrance into the fossa, at its capsular penetration or at any intervening point, the process of hemorrhage control is the same, namely, grasp the artery at its entrance into the superior extremity of the fossa, pass a suture ligature of No. 1 catgut underneath it and tie."

Among the other dangers of the operation is anesthesia, whether general or local. The operation should, therefore, be performed in a hospital where a trained anesthetist and skilled assistants are available. The object of a tonsillectomy, no matter by what

method, should be a complete enucleation of the tonsil, attended with the least possible bruising of the tissue, leaving the pillars and the tonsillar fossa intact, with the least consummation of time, and last, but not least, with as little loss of blood as possible. I will briefly describe a tonsillectomy as it is performed at the Hebrew Hospital of this city. The patient is admitted to the hospital early in the morning, after a light breakfast at home. A physical examination is made by one of the residents, and if no contraindication is found he is prepared for the operation, which usually takes place in the afternoon. The chief of my department, including myself, prefer to give the patient a hypo. of atropin about half an hour before the operation, as it has a tendency to check the secretion of mucus and it is also a respiratory stimulant. The patient is put in a recumbent position, with the head slightly lowered. Ether is administered by the anesthetist, first in the ordinary way, and as soon as the patient is asleep the ether is continued by a specially devised apparatus by Dr. Davis of this city. The ether passes through a hot container and is vaporized through a canula in the mouth-gag by foot bellows. By this method the anesthesia goes on and the operator is not interfered with. Another advantage of this apparatus is that it has self-retaining tongue depressors of three different sizes, and therefore permits the assistant the use of both of his hands for other purposes. An electric head lamp is used for illumination. The tonsil is injected in three different places with a solution of 16 minums of adrenolin in normal salts, which has a tendency to check oozing and to distend the sinus, bringing the tonsil out. After grasping the tonsil with a vulsellum, it is pulled forward and inward with a sickle-shaped knife, superficial incisions are made through the mucous membrane of the margo supratonsillaris, auter. pillar and through the plica. The pillars are liberated thoroughly by dull, and, if necessary, by sharp dissection, and the operation is either completed by dissection or, as I myself prefer, by the snare method. In using the snare, care must be taken that the bite of the vulsellum includes the whole tonsil before the application of the snare. The operation is facilitated by the assistant retracting the pillars and sponging when necessary. As soon as a tonsil is removed one or two firm sponges are applied with gentle pressure by means of Kelly clamps to check temporarily the bleeding. One by one of the sponges is removed, the bleeding points seized by hemostat specially devised for that purpose by Jackson of Pittsburgh, which has broad rounded ends. We make a lateral bite, leaving one end of the forceps free; the assistant holds the forceps while the operator with a piece of catgut No. 2, about 18 inches long, loosely ties a single loop about the shank of the hemostat, below the assistant's hand, and pushes it down with the index finger over the free edge of the clamp; one free end of the catgut is held between the last fingers pressed against the palm of the hand, while the index finger keeps the loop down so as to prevent the slipping off of the catgut up the shank. The other free end of the catgut is pulled tight with the other hand

until the knot is tied. The hemostat is removed by the assistant, the tie is completed by another knot and the catgut cut off. Other bleeders are similarly treated. Troublesome bleeding often occurs in the supratonsillar sinus, and the best way to get at it is to evert the pillar with a Kelly clamp. Care is to be taken not to clamp the bleeding point by doing so, as it will arrest the bleeding temporarily, but will recur as soon as the clamp is removed.

Dr. Rosenheim, of the Hebrew Hospital staff, devised a clamp which carries the loop over the bleeding point and facilitates ligation. It is surprising how easily bleeding points can be caught and ligated after a little practice, and there is no excuse for omitting its use on account of imaginary difficulty and resorting to suturing the pillars, using the clumsy, unscientific Miculicz instrument or merely to pressure by gauze sponges until the hemorrhage has apparently ceased to recur after the patient has left the operating table, and then call it, improperly, secondary hemorrhage. Since this method of ligation—the only surgical method—was adopted at the Hebrew Hospital, and the chief credit belongs to Dr. Lee Cohn, we never had a case of so-called secondary hemorrhage, and the amount of loss of blood during the operation is practically not over two teaspoonfuls.

Other throat surgeons have adopted ligation, never to give it up. As to the queston of hemorrhage in general, operators differ. Some say that this complication gives them but little trouble; others maintain that it causes them great anxiety. As a matter of fact, the fatal issues after tonsillectomies were usually due to hemorrhage. Often the surgeon finds consolation, ascribing the cause of hemorrhage to hemophilia, when as a matter of fact the "hemophilia" would have been promptly cured by one or more ligatures. Taking even for granted that you do not find spurting vessels in every case, but the reduction of the amount of blood lost in every tonsillectomy, which is from one to two ounces to one to two drams, is, *per se*, an indication for ligation, for even an ounce of blood means a great deal to a young and debilitated child. Why this method of ligation is not universally adopted by men doing tonsil operations I cannot understand. I should like to see the abdominal surgeon who would content himself to check bleeding by mere pressure with gauze sponges, sew up the abdomen and trust to the good Lord that nothing will happen to the patient?

To return to the operation which I began to describe above, I will conclude by stating that the adenoids, if present, are removed in the usual way, and a hard, firm sponge, the adenoid sponge, is pressed into the epipharynx with a Kelly clamp and kept there several minutes. The usual after-treatment consists in ice application; the patient is kept over night and discharged the next morning.

Local anesthesia is preferred in a child over 14 years of age and not of nervous temperament. A hypo. of morphine and atropin is given half an hour before the operation. My method is as follows: The points of injection at and near the pillars of the tonsils are

touched up with a 10 per cent. cocaine solution, also the pharynx; then a mixture of 8 minums of adrenolin in 1 dram of 0.50 per cent. of novocain is injected into the pillars. Blanching of the tissues is noticed almost immediately. Thereupon 0.50 per cent. of novocain is freely injected at the points of the first injection. The operation is fairly painless and the danger of cocaine eliminated, since novocain is about seven times less toxic. The tying of bleeders under local anesthesia is facilitated by lowering the back of the chair and putting the patient in a semi-prone position.

1729 Madison avenue.

A CASE OF MYXEDEMA, TREATED FOR THREE YEARS AS NEPHRITIS.*

By *Wm. T. Watson, M.D.*

About two years ago I was called to a new patient who was suffering with bronchitis. I was told by her daughter that she had had Bright's disease for three years. She looked the part. Finding her urine normal, I looked at my patient more closely and, upon my second visit, discovered that I had a typical case of myxedema.

Her age was 64.

She had not been herself for six years. Three years before I saw her her physician told the family that she had Bright's disease. He attended her over a period of two years, during which time she steadily became worse. During his absence from the city another physician saw her and treated her for nephritis. Her physician died, and inasmuch as treatment had been ineffectual, no other physician had been called in for nearly a year, when I was called to attend her for an intercurrent affection.

Upon investigation here is the condition I found:

Mind.—Her mental processes were slow.

She thought slowly, talked slowly, walked slowly.

Was always tired and sleepy. Would fall asleep whenever she sat down.

She had not been away from the block in which she resided for two years because she just thought she couldn't.

Her memory was poor; could not remember at night the happenings of the morning.

Had delusions of seeing flocks of cats, rats and dogs in her house, yard and street.

Was very suspicious. Often had headache.

Tinnitus complained of.

Skin.—Her skin was sallow and dry. She had not perspired for two years.

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*Read at Semi-annual Meeting of Medical and Chirurgical Faculty, Upper Marlboro, October 29, 1914.

Flat warts and naevi were numerous on her body.

Conspicuous soft pads were present above the clavicles.

The abdomen was large and pendulous.

Her hair had become thin and she had become bald around the margins of the hairy scalp, the so-called "frontal band alopecia." Her eyebrows were thin; her eyelashes gone. The hair on the vulva, previously profuse, was entirely absent.

Her eyelids were thick and heavy; the palpebral aperture narrowed. The eyebrows were elevated.

Her lower lip was thick and everted.

Hands and feet were enlarged, and she could not wear either gloves or shoes which she did a few years before.

Her gait was bad; often stumbled.

The tongue was enlarged; the sense of taste impaired—food did not taste good.

Heart sounds were normal. Pulse 112, regular. Blood pressure 175. Urine negative for albumin and sugar. Weight 125 pounds.

EFFECT OF TREATMENT.

She was photographed and then put upon thyroid extract, grains 2 three times a day. The effect was magical.

One week later she had lost 6¾ pounds in weight. Had not seen any cats, rats or dogs after taking the first dose. Drowsiness was leaving; memory improving. She talked more and faster. Her expression was brighter. Swelling of eyelids had diminished. Could put on her old gloves again.

In a month she had lost 12½ pounds. Her mental activity was normal. She had begun to perspire. Her pulse was down to 96 and blood pressure to 120.

In six weeks new hair began to appear upon the bald margin of the scalp. Weight was 108—a loss of 17½ pounds.

Thyroid extract was reduced to grains 2 once daily, and has been kept at that ever since. For a short period it was discontinued; she soon became tired and drowsy.

PRESENT CONDITION.

After two years. Age 66.

She has not a complaint of any kind. Is bright and cheery. Quick in speech and action. Memory excellent. Goes to church and market by herself. Does all her household work, including washing and ironing, and is proud of the fact that she can outdo many of the younger people. Never stumbles.

Her weight, which had fallen from 125½ to 106, has returned to 122. This doubtless represents the substitution of normal fat for myxedematous tissue, and very differently distributed. Her waist line has fallen from 42 to 29 inches.

All swellings are gone. The mucous membrane of nose has become thinned and she breathes more freely. The former bald

1. Photograph taken at beginning of treatment, showing dull expression, everted lower lip, prominent supraclavicular myxedematous pads and baldness at the margin of hairy scalp.

2. Photograph after two years of treatment, showing alert expression, absence of supraclavicular pads and complete return of hair.

3. Photograph taken at beginning of treatment, showing baldness at margin of hairy scalp.

4. Photograph after two years of treatment, showing a 12-inch growth of black hair on previous bald area.

places on her head are covered by hair 12 inches long. Her brows have become thick and her eyelashes have returned.

Her pulse is 72. Blood pressure 170.

ASTHMA.

At the age of 50, for the first time in her life, she had an attack of asthma. These increased in frequency and severity for several years, but were gradually subsiding. Since taking thyroid has had but one very slight attack. From a description of these attacks I doubt if they were true asthma; more likely laryngismus stridulus. Dr. Carey Gamble, from some observations he has made, believes that asthma may be a symptom of myxedema.

DIAGNOSIS.

Inasmuch as the effect of treatment is so prompt as to be almost miraculous, it is only fair to our patients that we give them the benefit of the earliest possible diagnosis.

I am glad that Dr. Beck will tell us of the atypical cases and early diagnosis.

As my patient was diagnosed as a case of nephritis, I will quote a few words about the differential diagnosis:

Anders says: "Myxedema could hardly be mistaken for acute or chronic nephritis in the absence of pitting, etc., as some have supposed."

Dock says: "Cases are still mistaken for nephritis or jaundice."

Osler says: "The general aspect of the patient—the subcutaneous swelling and the pallor—suggest Bright's disease, which may be strengthened by the discovery of tube casts and of albumin in the urine."

"But the solid character of the swelling, the exceeding dryness of the skin, the yellowish-white color, the low temperature, the loss of hair, and the dull, listless mental state should suffice to differentiate the two conditions."

CONCLUSION.

This patient, under a wrong diagnosis, was practically robbed of several years of useful life.

Correct diagnosis and treatment immediately restored her to health and usefulness.

As it is an insidious disease with sometimes one group of symptoms arising first in one case and a different group in another, it is manifestly difficult to diagnose a case in its incipiency. The case which I have reported was so typical when seen by me as not to be mistaken. Doubtless there was a time a year or two or three back when I still could have made the diagnosis, and a time still further back when one who had seen many atypical cases and was alert to the possibilities could have diagnosed it.

These full-fledged cases of myxedema are rare, yet it is possible that more of them may be found relegated to helpless invalidism under a wrong diagnosis. If so, I hope that some of you may discover them and enjoy the great pleasure that I have had in watching this individual, who had been thrown upon the scrap heap, speedily restored to a happy and useful life.

Summary of Results of Examination Held by the Board of Medical Examiners of Maryland, December 8, 9, 10 and 11, 1914.

No.	College of Graduation.	Anatomy	Surgery	Pathology	Obstetrics	Practice	Chemistry	Materia Medica	Therapeutics	Physiology	Total	Average
1	University of Maryland, '14	68	89	69	90	65	68	86	78	84	697	77
2	College Physicians and Surgs., Balto., '14	87	97	71	89	81	75	83	94	82	759	84
3	Howard Medical, '14	67	90	75	80	75	70	58	64	65	644	72
4	College Physicians and Surgs., Balto., '14	Failed to appear.										
5	College Physicians and Surgs., Balto., '14	77	..	60	..	69	69	77	81	78	...	..
6	Maryland Medical College, '13	Failed to appear.										
7	Medical College of Virginia, '14	60	96	58	80	62	67	77	82	70	652	72
8	University of Maryland, '14	75	..	84	88	..	97	..	..	88	...	..
9	College Physicians and Surgs., Balto., '12	75	85	70	81	69	75	81	81	85	702	78
10	University of Pennsylvania, '13	85	94	81	79	76	79	75	89	97	755	84
11	University of Maryland, '14	81	92	85	95	81	95	86	88	75	778	86
12	College Physicians and Surgs., Balto., '14	Failed to appear.										
13	University of Maryland, '14	87	91	80	89	75	94	84	70	80	750	83
14	College Physicians and Surgs., Balto., '14	66	95	60	91	77	84	66	81	76	696	77
15	College Physicians and Surgs., Balto., '14	93	92	86	87	75	99	87	80	86	785	87
16	Maryland Medical College, '12	..	..	..	75	..	..	..	75	75	...	..
17	University of Maryland, '14	66	98	89	82	75	80	82	85	83	740	82
18	University of Maryland, '14	78	94	81	93	87	100	75	76	86	770	86
19	Maryland Medical College, '12	75	..	..	79	..	..	..	83	75	...	..
20	Maryland Medical College, '13	19	..	45	..	75	38	59	70	40	...	..
21	Johns Hopkins, '15	65	89	77	78	76	67	69	80	75	676	75
22	Johns Hopkins, '14	68	91	81	65	75	93	82	82	84	721	80
23	Johns Hopkins, '13	83	98	81	88	79	90	82	75	77	753	84
24	Johns Hopkins, '13	87	92	91	90	83	100	81	100	78	802	89
25	Maryland Medical College, '13	..	..	54	..	..	..	90	..	..	...	..
26	University of Maryland, '14	83	91	84	97	75	100	87	79	80	776	86
27	Baltimore Medical College, '13	75	..	..	..	..	75	..	..	76	...	..
28	Jefferson Medical College, '14	91	92	90	90	76	100	95	85	89	808	90
29	College Physicians and Surgs., Balto., '13	Failed to appear.										
30	College Physicians and Surgs., Balto., '13	80	88	73	75	63	65	72	82	78	676	75
31	University of Louisville, '12	42	..	..	89	75	64	76	..	80	...	..
32	University of Maryland, '14	65	97	87	92	81	76	57	77	44	676	75
33	University of Maryland, '14	Failed to appear.										
34	College Physicians and Surgs., Balto., '14	75	84	68	82	75	61	86	81	88	700	78
35	Bennett Medical, Chicago, '14	55	60	45	66	56	25	78	78	75	538	60
36	Maryland Medical College, '12	57	75	60	..	66	..	..	..	..	...	..
37	University of Maryland, '14	75	..	..	..	..	..	79	79	87	...	..
38	Maryland Medical College, '12	..	..	..	..	..	50	62	..	66	...	..
39	University of Pennsylvania, '00	82	90	88	78	80	99	88	84	85	774	86
40	University of Maryland	75	..	..	..	..	75	75	..	81	...	..
41	University of Maryland, '14	82	89	85	68	76	84	82	85	85	736	82

In the above summary an average of 75 is required of those participating in the examination for the first time in order to secure a license. Those who have failed are eligible to re-examination at the expiration of six months. They are then obliged to receive a rating of 75 in each branch in which they are re-examined before license can be issued. Under the Maryland laws, students who, at the end of their second year, have successfully passed their college examination in anatomy, Chemistry, Materia Medica and Physiology are entitled to examination by the Board of Medical Examiners in these branches. The ratings made by these students in the examination known as the "second-year examination" are carried forward and made part of the final examination, when an average of 75 must be obtained to secure a license. We trust that this statement will make clear the apparently incomplete examination of certain participants.

REPORT OF BOARD OF MEDICAL EXAMINERS OF MARYLAND.

QUESTIONS AT THE DECEMBER (1914) EXAMINATIONS.

SURGERY.

1. Give the causes of acute intestinal obstruction, with symptoms.
2. Give the differential diagnosis between malignant and non-malignant tumors of the breast.
3. Give causes, symptoms and signs of retention of urine.
4. (a) Name the inflammatory diseases of the bones. (b) Give the symptoms and treatment of one.
5. Give the symptoms and treatment of tuberculosis of the knee joint.
6. Give the differential diagnosis between a fracture of the surgical neck of the humerus and a dislocation of the shoulder joint.
7. Name the surgical affections of the testicle and describe one.
8. Give symptoms, diagnosis and treatment of glaucoma.
9. Give signs and symptoms of hydronephrosis.
10. Give the diagnostic characteristics of—(a) varicose, (b) tubercular, (c) luetic ulcer.

OBSTRETRICS.

1. Describe the placental circulation.
2. What is your treatment for placenta previa about the eighth month of pregnancy.
3. What indications require the use of forceps? Give your method of using them and the danger of their use to mother and child.
4. Describe the causes of and treatment for post-partum hemorrhage.
5. How would you treat a case of puerperal eclampsia?
6. Give some of the most frequent causes of dystocia, and differentiate between uterine inertia and obstructed labor.
7. How would you manage a posterior shoulder presentation.
8. Name two of the most frequent growths of the uterus. Describe their formation and method of removal.
9. Give the various dimensions of the pelvis and describe what presentations are best adapted to them.
10. Give the diagnosis of pregnancy of the third month.

PRACTICE.

1. Definitions: Define (a) Grocco's sign. (b) Graves' disease. (c) Landry's paralysis. (d) Uremia. (e) Enteroptosis.
2. (a) Name the day of eruption in smallpox, chicken-pox, measles and scarlet fever. (b) State the duration of infection in each disease.
3. (a) Name the varieties of chronic nephritis. (b) Give symptoms and treatment of one variety.
4. Differentiate coma of alcohol, uremia and cerebral hemorrhage.
5. Name types of dysentery. Give treatment of one type.
6. Give causes of ascites and indicate how to recognize by what disease it is produced.
7. Give treatment of acne vulgaris.
8. Name types and give treatment of influenza.
9. Give treatment of acute cystitis.
10. Give treatment of erysipelas.

PATHOLOGY.

1. Describe the local and systemic morbid processes of diphtheria.
2. Define (a) Hematoma. (b) Ecchymosis. (c) Infarct. (d) Phlebolith. (e) Phlebitis. (f) Cholelithiasis.
3. Describe the differences between lobar and broncho-pneumonia.
4. Mention five diseases that are known to be transmitted by insects, naming the carrier and describing the method of transmission in each case.
5. Describe the prophylaxis of hydrophobia and state its theory.
6. Describe the processes terminating in dry gangrene.
7. Describe the gross and microscopic appearance of an amyloid kidney. Mention an antecedent condition and the urinary changes.
8. Describe the formation of intestinal adhesions.
9. Describe the method of isolating and recognizing bacteria.
10. How would you prepare a specimen of tissue for microscopic examination?

PHYSIOLOGY.

1. Describe the physiology of the portal circulation.
2. (a) Give composition, reaction, uses and specific gravity of the blood and the causes of the variations in specific gravity. (b) State why the blood remains fluid in the body and coagulates when shed.
3. Define tidal, complemental, reserve and residual air, and respiratory capacity.
4. In nutrition of the body what is the method of comparison of income and output of material?
5. Describe the glands and villi of the intestines and state what digestive changes take place in the small and in the large intestines.
6. Urine—the composition, specific gravity, reaction and average quantity passed in 24

hours. State also the most frequent abnormal ingredients of the urine.

7. Describe the process of absorption and state how the digested food enters the circulation.

8. What are the functions of the bile, the ingredients and how secreted.

9. (a) What is the normal temperature of the body, how regulated and sustained? (b) What are some of the conditions affecting the body temperature.

10. (a) What is meant by voluntary and involuntary muscles? Give examples. (b) Define tonic and clonic muscular contraction. Give examples of each.

MATERIA MEDICA.

1. (a) Define tincture, fluid extract, decoction and infusion. (b) What is the ordinary relative strength of a tincture to a fluid extract of the same drug.

2. Name the ingredients of compound chalk powder, compound licorice powder, carron oil, of the official compound cathartic pill and compound spirits of lavender.

3. Name three each of circulatory stimulants, circulatory depressants, antispasmodics, emetics, carminatives and diuretics. Give average dose of each.

4. Give the average adult dose of the following, using the official terms: Tincture nux vomica, tincture opium, Fowler's solution of arsenic, sulph. of atropia, sulph. strychnine, tincture veratrum (Norwood's) and tincture of digitalis.

5. Name and describe methods of introducing medicines into the circulation.

6. Mention three evils that might result from chemical incompatibility, and state the difference between an antagonist and an antidote.

7. Give the official preparations and doses of antimony, antipyrin, apomorphin, silver, aspirin, atropin, and use official terms.

8. (a) What are antitoxins? Name three and give source from which derived. (b) Give average adult dose of each and state how administered.

9. Name five official preparations each of iron and ammonium and give doses.

10. Define and describe alkaloids. Name three official alkaloids and give their doses. Define solvent and mention three.

THERAPEUTICS.

1. Write a prescription in Latin, without abbreviation (with "Fowler's solution" as one of the ingredients), stating condition for which used.

2. Write a compound prescription for an adult suffering with insomnia.

3. What drugs modify arterial tension? Give indications for their use.

4. Name two drugs which accelerate the action of the heart and likewise two which retard action; give dose of some official preparation of each.

5. Describe symptoms and treatment of acute arsenical poisoning.

6. Give the therapy of carbolic acid; symptoms of poisoning and treatment.

7. Name three counter-irritants. Give therapy of action, indications for their use and best methods of application.

8. Give your views as to the value of tuberculin therapy, theory of action and mode of administration.

9. Give the therapy of thyroid, indications and contraindications for its use, and mode of administration.

10. Name the "bromides." Give the differences in their action, and state why the common mixture of potassium and bromide and hydrate chloral is sometimes unsafe.

ANATOMY.

1. Describe the diaphragm, including openings, nerve supply, action and relations.

2. Name and describe briefly the varieties of epithelium, stating where each variety is found.

3. Describe the fibula. With what bones does it articulate? What muscles are attached to it?

4. Name branches of abdominal aorta.

5. What muscles or tendons cross knee joint? Which of them are extensors?

6. Origin and distribution of ophthalmic nerve.

7. Name all structures severed by amputation through middle of leg.

8. What nerves supply the tongue?

9. Locate deltoid, glenoid and Poupart's ligaments.

10. What passes through Hunter's canal?

CHEMISTRY.

1. Define normal salt, acid salt, basic salt. What is a deci-normal solution? Give example.

2. Carbon dioxid and carbon monoxid—give formula and general properties of each and explain their toxic action when inhaled.

3. Give the chemical formula and general properties of plaster of paris. Explain the process of "setting."

4. Give general properties of and name antidote for phenol. Construct its graphic formula and show its relation to benzene.

5. Name the chemical constituents of gallstones and give in detail a reliable test for bile in the urine.

6. Detail two reliable methods for detecting albumen in urine and one method for the quantitative estimation of the same.

7. Give in full one test for the presence of sugar in the urine.

8. How is ferric hydrate prepared and for what is it principally used in medicine?

9. Describe subnitrate of bismuth and explain the dark color of the stools resulting from its administration.

10. To what class of chemical substance does glycerin belong?

Book Reviews.

Fever. Its Thermotaxis and Metabolism. By Isaac Ott, A.M., M.D., Professor of Physiology, Medico-Chirurgical College, Philadelphia; Member of The American Physiological Society; Ex-President of The American Neurological Association; Consulting Neurologist Norristown Asylum, Member of The Deutsche Medicinischen Gesellschaft of New York; Member of Vereinigung Alter Deutschen Studenten in Amerika; American Society for Pharmacology and Experimental Therapeutics; Society for Experimental Biology and Medicine; Member of The American Association for the Advancement of Science; Corresponding Member of Atlanta Academy of Medicine; Member of The Philadelphia Medical Club, and Chemists' Club of New York, etc. 1914. New York: Paul B. Hoeber. Cloth, $1.50 net.

This monograph of some 160 pages consists of an embodiment and refinement of three lectures delivered to the Sophomore Class of The Medico-Chirurgical College. It deals essentially with the normal adjustment of the bodily temperature as influenced by metabolism. No more important factor engages the attention of the physician than temperature, therefore the conclusions drawn by the author, after more than 45 years of investigation, should interest the profession. In studying the phenomena of heat he used the three methods: (1) by the thermometer, (2) by the calorimeter, and (3) by the amount of oxygen absorbed and the amount of carbon dioxide eliminated. After going into those elements which regulate the heat of the body and describing in detail experiments for the proof of his deductions, he engages in a discussion of those agents which cause a variation in heat production, and finally into a detailed account of fever in man.

Medical Jurisprudence: A Statement of the Law of Forensic Medicine. By Elmer D. Brothers, B.S., LL.B., Member of the Chicago Bar; Lecturer on Jurisprudence in the Medical and Dental Departments of the University of Illinois and in John Marshall Law School. St. Louis: C. V. Mosby Company. 1914. Cloth, $3 net.

This book concerns itself with law as it affects the doctor. It enters very thoroughly into the qualifications, conduct, etc., of the expert witness, the dying declaration, adverse statements in the presence of a party, statements by patients to physicians, evidence, privileged communications, the license, civil practice, etc. In fact, it covers the ground in those things which affect the status of the physician legally. Those contemplating the purchase of a book of this character will find in Brothers' Medical Jurisprudence all they could desire.

Maryland Medical Journal

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BALTIMORE, FEBRUARY, 1915

LAY PRESS PUBLICITY BY THE MEDICAL MAN.

That cities other than Baltimore have been or are inflicted with lay-press advertising by the medical man is attested by an article in the November issue of the *Medical Review of Reviews.* In fact, the problem has become so pressing in New York that the Medical Society of the County of New York appointed a special committee to investigate the evil. Some of the conclusions of this committee as published in the *New York State Medical Journal* are pertinent to the situation which previously existed in our own city. This committee sums up the situation accordingly. Your Board of Censors has observed with regret the rapidly-increasing number of publications in the lay press concerning the professional activities of many prominent members of the Society. It has been found that the articles appear in the daily papers, in the weekly illustrated papers and in the monthly magazines. Some are written by the physician himself, and others by a lay author whose name is mentioned. In the majority of instances it is difficult to decide whether the article is written by the physician or by someone else. Some have no illustrations, the majority have the physician's picture, and some are profusely illustrated, showing the physician at work in the office, laboratory, clinic or hospital.

In the Principles of Medical Ethics as outlined by the American Medical Association the following abstract occurs: "It is unprofessional to procure patients by indirect advertisement, or by furnishing or inspiring newspaper or magazine comments concerning cases in which the physician has been or is concerned." All other self-laudations defy the traditions and lower the tone of any profession, and so are intolerable. It is not the intention to convey the idea that every article such as is being considered is an advertisement written by the physician for the purpose of increasing his practice. There are doubtless some which appear without the knowledge or consent of the man described. The newspaper editor, naturally anxious and probably morally bound to shield the espoused physician, cannot be expected to make the statement that a published article is a self-laudation accepted only because the contents make a good copy, and not a literary effort of the editorial staff.

The public demands information on the progress in medical science; it has a right to do so, but any information which is given the public should be the substantiated truth, and not the vaporings of an enthusiast who may awaken false hope and by the unsuccessful outcome of his efforts lower the confidence of the public in the profession.

Some months back Baltimore's profession was passing through the throes of a like infringement of the best traditions of her medical profession by some of the most prominent members of the profession. As in New York, the State Society undertook an investigation and came to practically the same conclusions, to wit:

That the medical profession fully appreciates the desire of the public for information on medical and surgical advances. It was therefore resolved when members gave information to the press, it should be done in an impersonal manner.

To the credit of Maryland's profession, the suggestion of the State Society has been, so far as we are aware, without violation, and an intolerable condition rectified.

Medical Items.

Dr. William Fulford Sappington of Webster Mills, Pa., has removed to Hancock, Md., where he has opened offices.

Prof. Randolph Winslow, who has been confined to his home with an attack of grip, has recovered and resumed his duties. Professor Winslow is professor of surgery at the University of Maryland.

A Physicians' Civic Club has been organized in Baltimore by Dr. William T. Watson, with an initial membership of 25.

The James Buchanan Brady Urological Institute, established through the benefaction of the millionaire of that name, was informally opened Thursday, January 21. The new institute forms an impressive addition to the Johns Hopkins Hospital group of buildings. The institute was established by Mr. Brady, who is known throughout the country as "Diamond Jim" Brady, as a monument of gratitude for the work done in restoring him to health by Dr. Hugh H. Young.

Dr. J. McPherson Scott, Hagerstown, secretary of the State Board of Medical Examiners, has announced that of the 41 who took the examinations December 9 to 11, in Baltimore, the following passed and were licensed to practice medicine and surgery in Maryland: William B. Blanchard, Wilford A. H. Councill, Crawford H. Douthist, James Earle Dull, Louis D. Englerth, John S. Fenby, Alexander J. Gillis, Harry C. Grant, Percy P. Hartt, Edward Jelks, Peter L. Keough, Erwin E. Mayer, Winthrop E. McGinley, Louis D. Minsk, Fuller Nance, Stacy Taylor Noland, Nicholas William Pinto, James Cary Parran, Henry S. Purnell, John L. Redmond, Samuel Alexander Rosse, John Holt Sewell, John F. Smith, Vernon S. Wilkinson, Austin H. Wood and Ira M. Zimmerman.

Dr. C. Hampson Jones, Assistant Commissioner of Health, who has been a patient at the Church Home and Infirmary, has sufficiently recovered to resume his duties at the Health Department.

At the January meeting of the University of Maryland Medical Society, held at the Hospital amphitheater, January 20, Dr. Albert J. Underhill read a most interesting paper, entitled "Observations on the Blood Urea Content."

The home of Dr. J. Carl Smith, Ellerslie was seriously damaged by fire December 13.

A subscription dance and card party was given at the Emerson Hotel on Friday evening, January 29, for the benefit of the new South Baltimore Eye, Ear, Nose and Throat Hospital.

A letter was recently received by Caleb C. Magruder, Clerk of the Court of Appeals, from his son, Dr. Ernest P. Magruder, who is surgeon in command of the third American Red Cross unit in Servia. He sailed from New York on the steamer Finland on November 21, landed at Patros, Greece, and sailed thence to Saloniki on the Greek steamer Erisos, expecting to go to Nish or to Uskup, Servia.

The letter from Dr. Magruder was written at Athens on December 12, just as he was about to start for Saloniki. His trip, he says, was beautiful and impressive, but he was shocked when he arrived at Corinth to find what was once the richest city in the world nothing more than a poverty-stricken country village.

The Queen of Greece sent word that she wished to receive the Americans at noon on the day after their arrival at Athens, and when they called she asked many questions about the Red Cross and hospital work, seeming much interested in what she was told.

"I have spent all my time since I have been here," writes Dr. Magruder, "in getting together some additional medical and surgical supplies, of which we are in great need if we expect to do efficient work. They know nothing of American business methods here, and one spends hours in doing what should require but a few minutes at most to accomplish. It looks now as if we shall be located at Uskup, Servia, and not Nish, as we at first thought, or this may be changed. I hope to know definitely when we reach Saloniki, where the actual site of our hospital will be, although I may not be able to write from that point, as the Servian Minister tells me they are dreadfully in need of us as soon as it is possible for us to get there. He tells me that he has arranged for a special train to rush us ahead from Saloniki as soon as we reach there."

MARRIAGES.

Katherine Tallman Westervelt, R. N., class of 1911, Johns Hopkins Hospital Training School for Nurses, to Henry Cutler Low, at Brooklyn, N. Y., October 2, 1914.

Katherine Staples, R. N., class of 1913, Johns Hopkins Hospital Training School for Nurses, to Dr. Oswald Lowsley, at Troy, N. Y., August 20, 1914.

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A REVIEW OF THE THEORIES AND FACTS UNDERLYING THE TREATMENT OF DISEASE BY SOURED MILK CULTURES.*

By Clement A. Penrose, M.D.

INTRODUCTION.

Probably every physician in the world uses occasionally soured milk (buttermilk), or its equivalent, in the treatment of his fellow-men. The majority, like myself, have had very little knowledge of the theories underlying such usage or the clinical evidence supporting it, other than was obtained from various circulars accompanying different soured milk products on the market, and what they have read in popular articles. There is, however, an immense literature on this subject by many writers of more or less repute. This goes far back into medical history, and continues down to the present time.

Realizing that the only way to acquire a real knowledge of a subject is to work it up, I started some months ago on this task and have tried to write a condensed, or rather a composite opinion, of the many writers whose works have been reviewed, separating the wheat from the chaff as well as possible. I have subordinated personal opinions to those of the majority, as far as I could. The subject is a most exhaustive one and the data in many ways was very incomplete. I trust that this exposition of the whole question will help others as much as it has helped me.

While the human body in its evolution has gradually fortified itself against a host of protein poisons, portions of it have become more or less inert with the loss of one or more valuable functions. Who can say what the ultimate outcome of this warfare will be which the human being is waging perpetually with his environment. In any event, it is most important that we conserve the energies of the already overstimulated organism, and protect it as much as possible from fresh invasion.

*Read before the Baltimore City Medical Society, January 8, 1915.

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HISTORICAL.

London M. Doughlas (*Bacillus of Long Life*, 1911) shows that milk was used as a diet probably in the Paleolithic and Neolithic ages, evidenced by the fossil remains of domesticated animals. The Scythians, long before the Christian era, used fermented milk.

According to Vedas butter was manufactured in India fifteen hundred years B. C. The Hindus call soured milk "Dadhi."

Koumiss, another soured milk preparation, derives its name from a tribe, mentioned by Xenophon and Pliny, the Kumanen. The Tartars in 1215 adopted this drink, from whom it eventually spread to the neighboring races, Turkomanen, Mongolians, etc.

Marco Polo, the celebrated traveler, speaks of a milk-wine "Chumis," used among the Tartars.

Koumiss was referred to in the twelfth century in the Ipatof (or Ipatiev) Chronicles, written by a Monk Nestor in the Ipatiev Monastery, in the town of Kastroma, Russia.

William De Rubruquis, a French missionary, describes it in the thirteenth century during his travels in Tartary.

In 1784 Dr. John Grieve, a surgeon in the Russian army, reported its use to the Royal Society of Edinburgh.

Dr. L. Carrick, in 1881, wrote a book on koumiss and its uses in pulmonary consumption.

Clarke described koumiss in his book, "Clarke's Travels, 1810."

On the steppes of Southern Russia and Asia a soured milk koumiss is made from mares' milk, the use of which, owing to its reputation as a cure for diseases of the lungs, has spread to Russia, Austria and Germany. The best koumiss today is made in the Province of Orenburg (Russia).

Among the Hebrews milk was used as a food, but excluded from presentation at the altar, because it soured so readily. In the East, soured milk is used almost exclusively, except that of the camel, which the Bedouin does not consider derogatory to the character of a man to milk, as he does in the case of a cow or sheep. The fresh camel's milk is very rich and pleasant to the taste. The soured milk of goats and sheep is called "Leben;" by some Arabian tribes "Sheneena."

Cattle are not owned by the best types of Bedouins, who look down upon those who cultivate their land, and so only use the milk of sheep and goats. This is always soured, probably due to the difficulty of transportation, the heat, and being contained in unclean skins. Their favorite dish consists of dates fried in "Leben" or butter. Dried soured milk is used by the Arabs, who mix it with a little water and this is known as "Meeresy." The Laplander uses soured milk obtained from the reindeer, mixed with cranberries and frozen hard in the paunch of the reindeer. This is cut up with a hatchet and served usually at the midday meal.

The Mohammedan tribes of the Caucasus soured their milk with keffir grains, golden yellow flakes or nodules about the size of a small bean. They claim divine origin for these grains, the

manufacture of which is surrounded with considerable mysticism. In reality these grains are formed in stale milk cultures and can be used with some care, after careful drying, over and over again. The resulting product is called Keffir or Kephir. Among the Armenians, in Western Asia, a drink of soured milk is made called Matzoon, which is similar to Keffir.

The wild tribes of Siberia and Tartary prepare from milk a strong alcoholic beverage containing 8 per cent. of alcohol, called "Araka" or "Ojran."

In the Balkan Mountains a soured milk is made called "Urgoutnik," which is like "Yoghourt."

Several authorities, such as Grundzach (*Zeitschrift fur Klin. Medicine*, p. 79, 1893), and Schmidtz (*Zeitschrift fur Physiologische Chemie*, Vol. XIX, 19, 1897), and Singer (*Therapeutische Monatshefte*, p. 441, 1901), showed many years ago that lactic acid and the conjugated ethereal sulphates decreased intestinal putrefaction.

Professor Elie Metschinikoff, of the Pasteur Institute, in Paris, deserves the credit of having first insisted upon the importance of introducing microbes into the human intestine as a curative agent for the purpose of converting their carbohydrate contents into lactic acid and thus bringing about a diminished putrefaction. (*Revue Scientifique*, Vol. XI, p. 103, 1904.)

It is stated that his attention was drawn to this line of work by the fact that Bulgaria, about this time, boasted of having more people who had reached one hundred years or over than any other nation in the world—3,800 persons out of a population of 7,000,000 inhabitants—while Germany could only show 71 out of a population of 61,000,000. On investigation it was found that the diet of these people consisted chiefly of a soured milk, ("Yoghourt" or "Jogurth") and rye bread. (*Promulgation of Life*, 1905.) The culture from which this soured milk was made was called "Bulgarian Maya" or "Maeja," and contained three types of bacilli. The most efficacious as far as the production of lactic acid is concerned was the "Maya" or "Maeja Bacillus," our Bulgarian bacillus ("Type A").

A scientific study of the majority of these soured milks show the presence of the Bacillus Bulgaricus. The Armenian "Matzoon," "Mazun" or "Zoolack" contains usually "Type B" (a weaker acid producer) predominating, while "Koumiss" is formed chiefly by the action of certain yeasts.

They all are contaminated with other bacteria, yeasts and fungi, these latter being able often to split up proteids and produce putrefactive and toxic substances. This shows the advantage of using in the treatment of human beings pure, uncontaminated cultures.

Clarke in his travels describes most graphically the dirty methods employed by the Kalmucks in making "Rack," a distilled milk beverage, in a way which would turn any western stomach. This applies probably to the methods of most of these wild tribes. It is possible that the inhibitory action of the lactic acid bacilli and

their products is the chief obstacle to the development of disease germs in this milk, which might cause severe epidemics of various intestinal disorders.

"AUTO-INTOXICATION."

The word "Intoxication" was associated for many years in the minds of the laity only with alcoholism. More recently we have come to recognize, due to modern medical progress, that this term can be properly applied to a host of conditions, which, both directly and indirectly, affect the welfare of the human organism. For many centuries the effects of poisonous material, introduced from the outside, have been noted and classified. It is only in recent years that a real scientific study has been made of those poisons normally, or abnormally, produced in the body itself under the varying conditions of health and disease. To such phenomena the name "Auto-Intoxication," (autos meaning "self" in Greek), or self-poisoning has been given. At first this term was so vaguely applied by the medical profession at large that, like that of malaria, it was often used to cover up a questionable diagnosis. Its use, therefore, for a time fell into considerable disrepute. As in the case of malaria, however, after the plasmodum of this disease could so readily be demonstrated "Auto-Intoxication" has in late years become a well-recognized condition, because many of the elements giving rise to it are now understood and can be adequately treated.

It is probable that a great number of well-known constitutional diseases, such as gout, diabetes, arthritis, arteriosclerosis (arterial hardening), and possibly old age itself, owe their origin in many instances, if not all, to such poisoning of the system. It is now known that some of these toxic products stimulate, while others inhibit the action of glands like the thyroid, adrenals, pituitary, pancreas, etc., concerned in the all-important function of internal secretion, which is so engrossing the attention of the medical world today. Their well-known effects on the arteries, joints, bones, muscles and organs are now being discussed in every medical journal.

The term "Auto-Intoxication" then embraces a broad and fascinating subject, taking within its scope one of the widest fields of medical research and including in its pathology almost every portion of the body.

The alimentary canal is probably most concerned in the question of "Auto-Intoxication," due to the very nature of its functions. We have adjacent to it so many portals of entry for disease germs, beginning with the teeth, the tonsils and the communicating sinuses and air passages, etc. The fact of our taking in so many bacteria with foodstuffs is evident. These, though admitted innocently enough, may readily multiply and give rise to poisons having the most serious direct or remote effects.

"INTESTINAL AUTO-INTOXICATION."

It has been shown by careful investigators that "Intestinal Auto-Intoxication" is either the result of toxic compounds developed from abnormal digestion, or toxines produced within the intestines by the abnormal action of certain bacteria. Both these factors may be complicated, and usually are, by faulty elimination, as for instance, constipation, urinary defects, etc. The stomach and upper part of the small intestine seldom, if ever, produce toxines due to the abnormal action of bacteria. These poisonous products are due to abnormal digestion, which gives rise to such chemical substances as B., Oxybutyric and Diacetic Acids with Acetonuria, arising from the poor digestion of fats and proteids, while oxaluria indicates probably faulty digestion of the carbohydrates.

Vaughan and others have shown that certain normal products of digestion may under some circumstances be split up into a harmless substance and one which is very poisonous.

In the small intestines excessive fermentation giving rise to hydrogen sulphid eructation or excessive lactic acid is more common than putrefaction.

Prompt absorption in the small intestine of the products of digestion prevents to a great extent putrefaction in the large, where the products due to bacterial growth are chiefly formed and absorbed. Cathartics, which act imperfectly and hurry food simply through the small intestine into the large without thoroughly emptying the latter, are dangerous, as they give the bacteria in this locality more nutrient media in which to develop. Disease bacteria are occasionally present in the intestines of healthy persons. Certain cases of ptomaine poisoning are due more to the fault of the digestive tract than the food eaten, and will follow sometimes on a moderate meal of proteid food.

The large intestine once had probably two important functions. It served as a reservoir for food and controlled the loss of water from the system. As modern man generally gets all he desires to eat and drink, these functions are to a great extent lessened. The large intestine, according to a number of eminent surgeons, can be entirely removed without affecting the organism very seriously.

BACTERIA NORMALLY FOUND IN THE INTESTINAL TRACT.

The following bacteria, having adapted themselves to the secretions of this portion of the body, are normally found in the intestinal tract:

Bacillus lactis aerogenes, predominating chiefly above the ileo-caecal valve, and possessing great fermentative powers.

The bacillus coli communis, predominating chiefly below the ileo-caecal valve, having great putrefactive powers and the ability to inhibit the growth of other organisms, either by its own overgrowth or the production of anti-bacterial bodies, which in time will kill itself.

The bacillus bifidus, found in both the small and large intestines, but chiefly in the large. This latter organism is the principal inhabitant normally of the intestinal tract of nurselings and possess but little inhibitory power over other bacteria, except the anaerobic forms. A fair number of the bacilli coli communis, bacilli lactis aerogenes, bacilli acidophilus, bacilli aerogenes capsulatus (not constant, but rather rare), and a few intestinal streptococci are also found in infant stools.

The bacillus bifidus is found in three forms, according as we meet them in the fæces or in culture media:

(1) a plain bacillary form.
(2) A bifid form (with a bifurcated extremity).
(3) A cephalated (knobbed or headlet form).

Unlike the bacillus coli communis, it is gram-positive.

INJURIOUS BACTERIA MOST FREQUENTLY INFECTING THE INTESTINAL TRACT.

The injurious bacteria most commonly taken into the intestinal tract with food, etc., are such well-known forms as—

Pyrogenic streptococci and staphylococci.

Typhoid bacilli.

Para-typhoid bacilli.

Various dysenteric bacilli—shiga bacillus, flexner bacillus, cholera bacillus, etc.

Proteus vulgaris.

Certain spore-bearing anaerobes—bacillus purificus, bacillus aerogenes capsulatus, bacillus botulinus.

All putrefactive bacteria grow best in a neutral media and are restrained in their growth by any acid.

Aerobes or facultative anaerobes (organisms living best when they can obtain oxygen, but able to do without it), like the streptococci pyogenes, the bacillus lactis aerogenes and the bacillus coli communis, cannot decompose native proteid, which is easily decomposed by strict anaerobes (bacteria not able to live in the presence of oxygen), such as the bacillus putreficus, the bacillus maligni oedemitis and the bacillus anthracis symptomatici.

The facultative anaerobes, however, can often attack the albumoses and peptones formed by the anaerobes, and thus enter into symbiotic action with them. Anaerobes can stand some oxygen if living in the presence of aerobes, who, according to Pasteur, divert the oxygen from them.

The small intestine in man contains a little oxygen, the large intestine seldom any.

According to Cushing and Livingood (Contributions to the Science of Medicine by the pupils of William Welsh, p. 543, 1900), the duodenum and jejunum contain only a few bacteria, and they are not usually of a kind that produce putrefaction or pathogenic effects. This is probably due to the effect of the stomach juices and the rapid passage of chyme through this portion of the intestines.

Bacteria accumulate greatly in the ileum within a foot of the colon, due probably to the obstructive action of the ileo-caecal valve. In this portion of the ileum, although not containing as great a number of bacteria as are found in the ascending colon, we find the greatest variety. The putrefactive anaerobes multiply here, especially when a pathological state exists, whereas, in ideal health, only a few are found in this region.

The large intestine is crowded with bacteria, having here the best conditions for anaerobic growth, but the number of living bacteria decrease as we approach the rectum, where they are mostly dead.

Without discussing the number of acute infections of the digestive tract such as typhoid fever, dysentery, etc., it would be interesting to go over briefly certain types of chronic excessive intestinal putrefaction, which are commonly met with among adults and children.

These types of chronic excessive intestinal putrefaction vary from simple cases of headache and indigestion, with mental irritability and a state of chronic fatigue, to those with great mental depression, considerable loss of strength and weight, with occasional acute attacks like ptomaine poisoning and evident degenerations of various vital organs.

In children we find great retardation of growth, large bellies, with excessive sweating of the head and alternating constipation and diarrhœa, etc.

In adults the loss of general vigor is usually associated with a corresponding loss in sexual power, as inability to concentrate or carry out any sustained effort, with indications of premature senility, evidenced by an atrophy of the subcutaneous fat, wrinkling of the skin, etc. Grave anemias are quite common in these cases, due to destruction of the red blood cells by certain hemolytic (blood-destroying) poisons, which are absorbed from the intestinal tract.

In advanced cases we find considerable desquamation of the epithelium of the mouth, tongue and intestines, evidenced in the stools, which may contain numerous gas bubbles, and which vary considerably in color and consistency. There has been an effort by different authors to classify different types, according as one or more species of organism was found predominating. As, however, the intestinal bacteria occur in so many combinations, and the question of predominance depends so much on our ability to cultivate them, such a classification from this standpoint would, therefore, at the present time seem to be rather an arbitrary one.

Bacterial activity produces many chemical substances, compounds with oxalic acid, butyric, propionic and other higher fatty acids, lactic and acetic acids, acetone, etc., also many basic substances, ammonia, methylamine, cholin, neurin (both quite toxic), sulphur compounds, including hydrogen sulphide and probably various mercaptans (or sulphur alcohols). From the breaking down of the proteid molecule, indol, skatol, phenol, cresol and a

number of toxic substances like putrescin, cadaverin, etc., etc. All these have certain influences upon the human organism, many of which are most harmful when they are absorbed in sufficient quantities.

The degree of intestinal auto-intoxication is difficult to determine empirically and rests chiefly on clinical data. The estimation of indol in the fæces by Ehrlich's reagent (Dimethylamidobenzaldehyde) gives only a fair indication from the intensity of the cherry red color formed as to the degree of putrefaction going on in the intestinal tract. The tests for indican and the ethereal sulphates in the urine are also a help in many cases. Unfortunately, some patients with the most decided toxic symptoms do not give such tests, which are, therefore, by no means conclusive. Patients subjected to these poisonous products after a time become chronically invalided and their lives frequently shortened by the development of some chronic organic trouble. They are cases which the ordinary medical methods have succeeded very little in ameliorating. Usually the general practitioner has to deal with the damage already done. It is only by preventative measures that we can hope to ward off the many injurious results of such intestinal conditions. The actue infections, like typhoid, dysentery, etc., are so apparent in their manifestations that they can scarcely be overlooked. These chronic infections are so insidious in their onset that they often pass by unnoticed until it is too late for any remedy. The early recognition of these chronic intestinal infections is, therefore, most essential; better yet would be the education of the community in a more proper regime of health and diet, etc. The danger of them developing would then be reduced to a minimum.

There is a growing opinion among medical men that probably no conditions are so detrimental to the welfare of the human race as these obscure intestinal disorders. Overwork, overstrain, overindulgence, overeating and drinking, the types of food used (high seasoning, etc.), in fact, the whole trend of modern civilization are conducive to their development. The average age of the human being could probably be considerably prolonged if the degenerative effects of such infections could be prevented or even mitigated.

INFLUENCE OF DIET ON THE INTESTINAL FLORA.

The number and kinds of bacteria in the intestinal tract are greatly influenced by the diet. A meat diet unquestionably increases the number of anaerobic bacteria (putrefactive gram-positive bacteria) in the intestinal tract. Fresh meat (i. e., animal tissue) and even cooked meats have a much greater reducing power (ability to take up oxygen) than vegetable cells, evidenced by the reduction of methylene blue into leucomethylene blue. This reducing power of the meat in the upper intestinal tract probably favors the anaerobic, putrefactive bacteria in the lower intestinal tract of carnivora and large meat eaters.

A sterile diet limits the intestinal flora to almost pure cultures

of the colon bacillus and the bacillus lactis aerogenes. On the other hand, under certain conditions the gram-negative bacteria can be replaced almost entirely by the gram-positive bacteria (or acidophile bacteria). Putrefactive bacteria grow best in a neutral media and are restrained by an acid media. In the intestines of herbivorous animals (plant eating), like the buffalo, goat, horse, elephant and camel, the gram-negative bacteria preponderate, in contradistinction to those found in the intestines of carnivora, where the gram-positive bacteria are in excess.

According to Herter, if milk (soured or otherwise) is taken in place of other food, the daily protein ration is lowered and we do not have as much putrefaction, which is dependent on the amount of protein taken. If added to the usual amount of food the protein ration may be increased. These are points to be considered when milk is substituted for food or added to the usual diet.

INFLUENCE OF CLIMATE ON INTESTINAL FLORA.

The climate probably affects the bacteria of the intestinal tract of animals only as far as the food eaten is concerned. In the warm, temperate and torrid zones bacterial life is more luxuriant, whereas in the frigid zone of Arctic region bacteria have less chances of living.

Levin (*"Bakteriologische Darmuntersuchungen,"* Skandinavisches Archiv. f. Physiol. XVI, p. 249, 1904) observes that polar bears and other animals of the Arctic region may have no bacteria in the digestive tract.

The parrot, although living in warm regions, has very few bacteria in its intestines, this fact probably being due to the bacteriacidal properties of its intestinal juices.

THE USES OF BACTERIA IN THE INTESTINAL TRACT.

From experiments it is fairly conclusive that intestinal bacteria are not necessary for the ordinary digestive processes or normal nutrition. Under the usual conditions of living, however, a human being takes into the alimentary canal, with his food and drink, numbers of micro-organisms capable of doing much injury if they multiply in the digestive tract. The normal flora of the alimentary canal (i. e., bacillus lactis aerogenes, bacillus coli communis and bacillus bifidus), by virtue of their adaptation, are not ordinarily harmful to their host, but are capable under some circumstances of discouraging the growth of any harmful species which the human being may admit into his intestines. The real role of the obligate intestinal bacteria probably lies in their abilty to check the development of other types. An inference from this would be that Nature herself had decided that there is no better method of protecting the human organism from such infection than by the utility of certain protective bacteria. It would follow from this that could organisms be found whose inhibitory effects were even greater than those normally inhabiting the intestinal tract we

would then have a rational method of curing or preventing many intestinal diseases, or those resulting from intestinal conditions.

Unfortunately, the forms commonly found in the intestinal tract can themselves under certain conditions multiply and acquire increased virulence, and in this way become harmful to the host. The bacterium, which is usually antagonistic to the growth of others and which has never been shown to produce harmful results, would be almost an ideal curative agent. We believe that the Bulgarian bacillus possesses most ideally such attributes. A discussion of its various properties will be contained under the following heading.

THE BULGARIAN BACILLUS.

Grigoroff of Massol's Laboratory in Geneva first isolated and described "Type A" of the bacillus Bulgaricus (*Revue Med. de la Suisse Rom.*, 1905, XXV, 714).

White and Avery (Observation on Certain Lactic Acid Bacteria of the so-called Bulgaricus Type, Cent. Bakt., par. 11, 1909, Vol. XXV, p. 161) have reviewed the morphological, cultural and biochemical features of the lactic acid producing bacilli obtained from Yoghurt, Mazun or Matzoon, and Leben. They classify them as a single group identical with the bacterium caucasicum. Kern (*Bulletin de la Societe Imperiale des Naturalistes de Moscou*, 1881, No. 3). This group, however, owing to certain differences in the presence or absence of granules, demonstrated by different stains, the degree of lactic acid production and the nature of the lactic acid formed, can be divided into two types, designated as the true type ("Type A") and the para type ("Type B"). The proper characteristics of these two types, "A" and "B," are:

"Great variability of cell form, depending on age of culture and kind of media. Length equal to 2 μ to 50 μ. Breadth about 1 μ. Chain formation marked in some strains. Longer and slenderer forms seen in older milk cultures. Nonmotile, nonsporulating. Viable bacilli are gram-positive, dead and involution forms gram-negative. Difficult to cultivate (growth in most media feeble). Freshly isolated, growth obtainable only on media containing whey or malt and in milk. Growing equally well under aerobic and anaerobic conditions. Optimum temperature for growth is from 44°-45°. Fair growth at 30°, slight at 25°, none at 20°. Colonies on whey agar are round to irregular, grayish white, 0.5-1.5 mm., curled, filamentous structure, periphery mostly filamentous, often streaming, in a few cases smooth and even. Gelatine not liquefied. No surface growth on gelatine stab cultures. Along the stab, growth is filiform, beaded, projecting ramifications later. Medium clear. In agar stabs the growth is the same as above, but heavier. The medium is clouded. The growth in whey produces clouding, which disappears in 5 to 14 days, forming a grayish white sediment. No growth on potatoes. Milk coagulated in 8-18 hours at 44°, and is the most favorable medium for growth. The lactic acid formed is either inactive or laevo-

rotatory. A small quantity of volatile acid is produced. No appreciable peptonization of the curd. Nonpathogenic."

"Type A" varies from "Type B" in the fact that the protoplasm of this organism stains homogeneously with Loeffler's methylene blue or with Neisser's stain, while "Type B" shows the presence of intensely staining granules. It produces 2.7 to 3.7 per cent. lactic acid in milk, while "Type B" produces only 1.2 to 1.6 per cent. "Type A" produces the inactive lactic acid, while "Type B" produces always the laevorotatory acid.

In whey after 18 to 24 hours "Type A" shows an involution form, which consists of an oval or kidney-shaped nodule, attached to a small stem extruding from the cell substance, or from the junction of two of the bacilli. "Type B," under the same conditions, one or more spherical bodies without stems attached to the cells or free in the fluid resembling cocci. "Type A" being the greatest acid producer and more active in every way than "Type B," is the organism which is chiefly used in the production of the best forms of Bulgarian buttermilk. It is the bacteria contained in the Bulgara tablets of Hynson, Westcott & Co.

Bertrand and Duchacek (Action du ferment bulgare sur les principaux sucres. Annal. de l'Inst. Pasteur, T. 23, 1909, p. 402) report that dextrose, mannose, glactose, levuose and lactose are fermented by the Bulgarian bacillus, while arabinose, xylose, scorbose and saccharose are not attacked. Mannite is not transformed into lactic acid. Whey cultures of different ages were tested for indol without results. It is probable that an enzyme is formed, which coagulates milk, because even after all acid produced in the media is neutralized by the addition of calcium-carbonate, calcium-chloride and zinc-chloride in excess, the curdling of the milk still takes place.

Desiccation.—Cultures if properly dried live about one month longer than when grown in milk or fluid cultures, i. e., about four months.

THE TREATMENT OF VARIOUS PATHOLOGICAL CONDITIONS WITH THE BULGARIAN BACILLUS.

It has been shown in the previous pages that soured milk was used as a health food from remote ages down to the present day. In the majority of instances this souring of the milk was due to a certain group of bacteria, the lactic acid producing bacilli, most prominent among which was the Bulgarian bacillus. ("Type A.")

No thinking man can doubt that a remedy which has borne the test of time so long could fail to have considerable, if not a great deal, of merit in its administration. Adding to these facts of history, the scientific study of the organism chiefly concerned, with the clinical data obtained from the very best sources, there can be no doubt that we have in this bacterium a most valuable remedy, if applied in suitable cases with some degree of intelligent application.

In combating diseases, the use of fermented milk is based on the theory that the introduction of lactic acid bacilli produces conditions unfavorable to the growth of harmful bacteria. This inhibitory action may be due in part to the acid already formed in the milk or culture used, and in part to the introduction into the digestive system, or other portions of the body, of the actively growing lactic acid bacilli. These can establish themselves here, and by their development will have a tendency to suppress the activity of the undesirable bacteria, either by producing more lactic acid or by their overgrowth, or by the production of certain bacteriacidal bodies, the presence of which are believed to exist, but are not well understood.

In their new locality these bacilli may continue their protective work for a considerable period of time, even after their administration has been stopped. This fact alone gives them a decided advantage over such intestinal antiseptics as beta-naphthol, salol, thymol, urotropin, etc., which have only a limited field and are in some instances unsafe to use.

Let us review again the important properties of the Bulgarian bacillus from a therapeutic standpoint. It is a large acid producer, according to Bertrand and Weisweiller (Ann. de l'Inst. Pasteur, 1906), producing ordinarily to each liter of milk as much as 25 grammes of lactic acid and 50 centigrams of acetic and succinic acid. Under some conditions as much as 4 per cent. of lactic acid is formed. Hastings and Hammer (Research Bulletin, Wisconsin Experimental Station, (6), Vol. 25, 1909). It has no putrefactive action upon proteids. It lives under both aerobic and anaerobic conditions. It is absolutely without any pathogenicity. It will grow well in milk cultures containing 0.5 hydrochloric acid, (therefore, gastric juice containing one to two per cent. could hardly destroy it). It also grows readily in neutral cultures and those with an excess of alkali, especially calcium-carbonate. It will also grow in milk containing 4 per cent. of alcohol. (The fermented drink "Araka" or "Ojran" of Siberia contains 8 per cent. alcohol, due to the fermentation of certain yeasts.) It does practically all and more than any of the other forms of lactic acid producing bacteria can do, and is for this reason the one selected generally for the treatment of human beings.

The Bulgarian bacillus then on hypothetical grounds would seem to be especially suited for a therapeutic role. Let us see if experimental and clinical data will confirm this theoretical assumption. Many authors have shown in the past that the organisms of typhoid, diphtheria, tuberculosis, etc., and various putrefactive bacteria, are inhibited by the Bulgarian bacillus when it is grown in suitable media. After 12 to 48 hours the Bulgarian bacillus alone survives.

Dr. C. A. Herter of New York (*British Med. Journal*, p. 1898, December 25, 1897) discovered that he could disinfect the intestinal tract of animals by the action of lactic acid bacilli. (Also see "The Common Bacterial Infections of the Digestive Tract, 1907.")

He found in the digestive tract of a monkey (1908), killed after feeding for two weeks with milk soured by the Bulgarian bacillus, that this organism was abundant in the upper part of the small intestine. Only a moderate number were found in the large intestine. I do not think that this experiment on one animal was very conclusive.

Belonovsky showed that mice fed on Bulgarian bacillus cultures had a much less number of bacteria in their droppings, while those fed on sterile milk or sterile milk curdled with lactic acid showed no change in the number. All groups of mice lost weight except those fed on sterile cultures of the Bulgarian bacillus, which held their weight, while those fed on active cultures of the Bulgarian bacillus gained weight. His experiments indicated that it was not the lactic acid, but rather some other unknown element which has the antiseptic effect on the intestinal bacteria.

Dr. Michael Cohendy concluded from his experiments on four patients that this organism was readily established in the intestines and persisted for a considerable time after they had ceased drinking fermented milk. He stated that the multiplication of these bacteria took place in the upper two-thirds of the colon. The stools of these patients were acid or neutral. He also stated that the ethereal sulphates were reduced in the urines and that this reduction must be attributed to a disinfection of the large intestine.

Cohendy (C. R. de la Societe de Biologie, March 17, 1908) performed similar experiments on himself. First making estimations after twenty-five days without taking any bacilli, and then after taking the bacilli in large quantities (280 to 350 grammes a day) for two months. The intestines now showed much less putrefaction, as was demonstrated by the urine. This effect continued several weeks after the treatment was stopped, whether meat was taken in the diet or not.

Combe and Poshon, his associate, (Combe L'Auto-Intoxical Intestinale, Paris, 1909), performed similar experiments with the same deductions.

Charles E. North reports three hundred patients treated with Bulgarian bacillus and suggests the use of a culture in dextro-peptone, to which calcium-carbonate was added, in diseases affecting other portions of the body than the intestinal tract. He recommends such cultures applied as a spray or injection in various inflammations of the ear, nose, throat and genito-urinary tract.

Metchnikoff claims that he was relieved himself of a dropsy, following a heart condition, by the intestinal administration of milk cultures of the lactic acid bacilli, although treated for thirty years by the best specialists in France and Germany without result.

Klotz reports, in addition to Metchnikoff in 1906, good results in intestinal infections.

Among other authors who have obtained good results in the treatment of patients with cultures of the Bulgarian bacillus are:

E. I. Harrington, who treated a number of adults and children successfully.

Horwitz, who obtained excellent results in thirteen cases of diabetes, and Beveridge also in one hundred and seventy-six cases of this disease.

David Watson used filtered cultures in the vagina of women for the treatment of gonorrhœa.

Jeannin used gauze soaked in fresh liquid cultures of the Bulgarian bacillus in septic vulvo-vaginal sores and large recto-vaginal fistulas, and also in breast abscesses with excellent results.

Pouliot recommends lactic acid bacilli in local applications.

Berry reports excellent results in twenty-four children suffering from summer diarrhoea. No preliminary purgative or change in diet was used in a number of cases.

C. J. Schillings of Allandale, Oakland, Cal., a naturalist, reports January, 1912, great success in the treatment of "white" or "brooder diarrhoea" in young chicks, also in various enteric troubles of turkeys and game birds, by feeding them with cultures of the Bulgarian bacillus.

R. S. Loving of Dallas, Texas (1913), reports excellent results in cases of infantile diarrhoeas, etc., treated with Hynson and Westcott's Bulgara tablets.

R. O. Clock reports one hundred and seventeen cases of infantile diarrhoea treated by the intestinal implantation of the bacillus Bulgaricus at the Babies' Hospital in New York. These patients varied in age from six weeks to two and one-half years. They represented four cases of entero-colitis and one hundred and thirteen cases of gastro-enteritis. Of these last cases, forty-seven were mild, fifty-three severe and fourteen very toxic. The average period of time before treatment was started was one week, the longest period three weeks and the shortest two days. Treatment consisted in using from one to three Hynson and Westcott Bulgara tablets every two to three hours. Seventy-four babies were kept on their regular milk diet, forty-three from twenty-four to forty-eight hours in the beginning on a starvation diet of barley water. Twenty-nine of this forty-three were given a preliminary dose of castor oil. The cases which improved the fastest, indicated by gain of weight, change in character and number of stools, subsidence of fever, abatement of vomiting, improved appetite, etc., were those that were kept from the start on the regular milk diet. Improvement started in twenty-four hours and all gains of weight were permanent. Only one case, a very toxic one, died. As many as forty-two tablets in twenty-four hours were given to very young babies without untoward results.

Nicholson and Hogan (*Journ. of the Amer. Med. Assoc.*, January 14, 1914) have gotten good results in the treatment of diphtheria with the Bulgarian bacillus. Liquid cultures being sprayed into the nose and throat, a partial application of the method recommended by Harold B. Wood, who used a spray of lactic acid for the same disease.

CONCLUSION.

It would be impossible to quote from more than a few of the important communications on this subject. It is evident from the voluminous literature collected (178 articles by 146 authors) that a great many physicians in many countries are interested in the therapeutics of soured milk cultures. It has surprised me, going over this work, to find how little real scientific work has been done on the bacteriology of the digestive tract under the varying conditions of health and disease. The careful study of the intestinal flora of all cases of grave anemia would probably be of the greatest service. Much more accurate research is needed in the chemistry of the digestive tract under normal conditions, after rest, fatigue or protracted strain, starving, overfeeding with proteids, with carbohydrates, etc., and in a host of abnormal conditions. I cannot understand why men, capable of doing this kind of work, are wasting their time over lesser problems when confronted with such vital ones.

While I personally can quote a number of intestinal cases treated with advantage by the cultures of the bacillus Bulgaricus, it would hardly seem necessary to do so. I should like, however, to state emphatically my conclusions from going over this work and from my personal experience with patients. It is always best in cases where we wish to limit the amount of putrefaction in the intestine to cut down or eliminate protein food. It is quite questionable whether the flora of the large intestine normally is much modified through the ingestion by mouth of the lactic acid bacteria unless this is done. It does not seem necessary to give enormous quantities of these bacilli, but rather to be sure that one is dealing with viable (living) cultures. Tablets should certainly be preferred in the treatment of cases with hyperacidity. If liquid cultures are used they can be neutralized with calcium-carbonate, which rather favors the growth of the Bulgarian bacillus. As the inhibitory powers of the Bulgarian bacillus are due especially to certain bacteriacidal products formed, other than the lactic acid, it is not necessary that they should actually replace the normal flora of the intestinal tract in order to considerably lessen putrefactive processes. Clinical experiences show that even in cases where an excessive protein diet is used, as in tuberculosis and other wasting diseases, and the cases of mal-nutrition in children, we can even here limit greatly putrefaction in the large intestine. This fact can be determined by various urinary tests for indican and ethereal sulphates, etc. To get a maximum effect in most cases of auto-intestinal intoxication, it is important that the patients under treatment should take little or no exercise. States of fatigue, according to Ficker, increase putrefaction in the intestines. This is probably because exercise diminishes the volume of gastric juice and other juices, which normally inhibit bacterial growth. It also diminishes peristalsis. Exercise produces a leucocytosis and accelerates the flow of lymph and blood. During exercise and after, bacteria tend to migrate from the intestinal canal out into the

neighboring tissues. The epithelial cells become more pervious to bacteria, aided probably by the increased number of leucocytes. In this connection it is interesting to find that the flesh of overfatigued animals decomposes sooner than the flesh of rested animals. To recapitulate: In the treatment of various conditions with the Bulgarian bacillus, it is important to have viable cultures, to control the diet of the patients, and see that they avoid undue physical or mental effort.

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Book Reviews.

INTERNATIONAL CLINICS. Edited by Henry W. Cattell, A.M., M.D., Philadelphia. Volume III. Twenty-fourth Series 1914. Philadelphia and London: J. B. Lippincott Company. Cloth, $2 net.

Herein are recorded the vaccine treatment of typhoid fever, report of a series of eighteen cases, therapeutics of the foot, the treatment of diabetes, the nature and successful treatment of rheumatoid arthritis, the use of a series of vaccines in the prophylaxis and treatment of epidemic pertussis, some practical points in the therapeutic application of static electricity, anal fissure, primary cancer of the clitoris, etc., besides a number of other excellent selections, any one of which may be the article for which you are looking.

THE SALVARSAN TREATMENT OF SYPHILIS IN PRIVATE PRACTICE. With Some Account of the Modern Methods of Diagnosis. By George Stoppord-Taylor, M.D., M.R.C.S., and Robert William Mackenna, M.A., M.D., B.Ch., Physicians to the Liverpool Skin Hospital. New York: Rebman Company. 1914. Cloth, $2.00 net.

The above book is a record of the observations and impressions of the authors and the conclusions drawn after more than three years' work with salvarsan. They are thoroughly convinced of the immense value of salvarsan in the treatment of lues and its efficacy in controlling the ravages of this awful infection. The first chapter is devoted to a description of the cause of syphilis, the second to new light on parasyphilitic disease, the third to the treatment of syphilis with salvarsan, and the fourth to combined treatment of syphilis with salvarsan and mercury. In writing of the reaction following the injection of salvarsan the writers say: "Much has been written about the reaction which follows the in-

travenous injection, and many alarming symptoms, such as violent rigors, hyperpyrexia and collapse have been described as occurring. It has not been our misfortune to encounter any of these formidable manifestations. We attribute our immunity to the careful preparation of our patients, the technic of the administration and the after-treatment we pursue. We find that many of our patients have no reaction at all, except a little sickness or a slight looseness of the bowels. A temperature of more than 101° F., and that only for a short period, is in our experience a rare sequela. We still hold in some measure the reaction is related to the acuteness of the disease, and we should expect a patient with a florid secondary eruption to give a more severe reaction than an old tertiary case with an ulcer of the leg. The patient should be kept in bed for at least twenty-four hours after the injection. The value of this precaution lies in the fact that an equable temperature in bed aids the elimination function. After an injection intravenously a patient should lead a moderately quiet life for a week, and avoid chills."

The authors state that there are few contra-indications to the use of 606, but the following may be taken as absolute:

Severe non-compensated cardiac lesions.

Acute nephritis.

Gastric and duodenal ulcer, on account of the danger of hemorrhage.

Cirrhosis of the liver.

Patients with advanced degeneration in the central nervous system.

Severe glycosuria.

They are fully convinced from their experience that the dangers of its use have been grossly exaggerated. The fatal accidents which have occurred have been due either to large overdoses, the choice of unsuitable cases, such as patients suffering from severe degenerative changes in important organs, or to errors in technic. They emphasize: "It should not be forgotten that as with the administration of anesthetics, so with salvarsan, careful administration reduces the danger to a minimum; careless or haphazard administration means disaster. Where it can be arranged, they believe in following up an injection with ten or twelve intramuscular injections of grey oil, at the rate of one per week, each injection containing from 7 to 14 cgs. of metallic mercury. Where this is impossible they advise inunction at the hands of an expert masseur. They conclude: "The enemy we have to fight is a strong one, and will not be defeated by a half-hearted attack. Salvarsan given intravenously, followed by vigorous mercurial treatment, and, if necessary, further intravenous injections and more mercury, till the Wasserman reaction becomes negative and remains so permanently, is the method of treatment that promises and yields success."

This little book is well worth possessing. It is full of useful and practical suggestions, suggestions which can be put into

practice. It gives us great pleasure to recommend it to our readers.

The Physician's Visiting List (Lindsay and Blakiston's) for 1915. Sixty-fourth Year of Its Publication. Philadelphia: P. Blakiston's Son & Co., Successors to Lindsay and Blakiston. $1.25.

Those who have been using Lindsay and Blakiston's Visiting List are well aware of its sterling qualities. Those who aren't, but desire a satisfactory visiting list, cannot do better. Besides containing space for 25 patients per week, there is such additional information as calendar 1915-16, a complete table for calculating the period of utero-gestation, table of signs, incompatability, poisoning, the metric or French decimal system of weights and measures, quarantine periods of infectious diseases, comparison of thermometers, etc.

The Backward Baby. A Treatise on Idiocy and the Allied Mental Deficiencies in Infancy and Early Childhood. By Herman B. Sheffield, M.D., New York, Fellow of the New York Academy of Medicine and the American Medical Association; Author of Modern Diagnosis and Treatment of Diseases of Children, Pediatric Memoranda, and The Baby's Record and Health, and Co-Author of Practical Pediatrics; formerly Medical Director Beth David Hospital, Instructor in Diseases of Children, New York Post-Graduate Medical School and Hospital, and Associate Babies' Hospital (O. P. D.); Visiting Physician to the Philanthropic Hospital and the Northwestern Dispensary, etc. Awarded the Alvarenga Prize of the College of Physicians of Philadelphia, July 14, 1914. With twenty-two original illustrations in the text. New York: Rebman Company. 1914. Cloth, $1.50 net.

In the above book the profession is presented a practical survey of the etiology, pathology, diagnosis and treatment of the diverse mental deficiencies as they occur in children under five years of age. This is a phase of medicine which has received but scarce attention, and is therefore as yet in an undeveloped state. Owing to its importance it hardly seems possible that more attention has not been devoted to its investigation. We have therefore for the first time in a single volume and in a connected manner a study of idiocy and the cognate affections in children under five years of age. Such a contribution to medicine should and will go a long way towards ameliorating and perhaps curing those affections before the underlying lesions have permanently destroyed the cerebral functions. The book undertakes to discuss such conditions as: Heredity, modus operandi of hereditary transmission of amentia, examination of the patient, with especial reference to stigmata of degeneration, normal mentality and its development, impaired mental senses, status idioticus, mental tests, special

groups of amentia, microcephalus, hydrocephalus, infantilism, mongolism, cretinism, prophylaxis, eugenics, mental training of the normal infant, active treatment of amentia, etc. It is a book which should wield a powerful influence in directing attention to amentia and its prevention.

A Manual of Diseases of the Nose, Throat and Ear. By E. B. Gleason, M.D., LL.D., Professor of Otology in the Medico-Chirurgical College; Aurist to the Medico-Chirurgical Hospital; Surgeon in Charge of the Nose, Throat and Ear Department of the Northern Dispensary; formerly one of the Laryngolists to the Philadelphia Hospital. Illustrated. Third Edition, Thoroughly Revised. Philadelphia and London: W. B. Saunders Company. Baltimore: The Medical Standard Book Co. 1914. $2.50 net.

Gleason's Manual of Diseases of the Nose, Throat and Ear has ever since its first appearance been a recognized students' guide. After a careful inspection of the present edition there is no reason why it should not occupy as prominent a part as its predecessors in the affection of students. Heretofore it supplied a distinct demand. Today the same demand exists. Consequently it should prove every whit as popular as the former editions. In this volume more space is devoted to diagnosis and treatment than in the former editions, with less to the rare and difficult operations. It is particularly pleasing in this respect and shows the wisdom of the author. Would that more in writing books had the same light. For the average student and beginner in medicine, diagnosis and treatment are of vastly more importance than operations, and it is a good omen that the author of the above volume realizes this fact. As formerly, it is a thoroughly trustworthy and reliable guide, and as a supplement to classroom instruction will be found very serviceable.

The So-So Stories. Reed & Carnrick.

The So-So Stories are a series of humorous stories of interest to physicians. The stories appeared individually and in serial form originally, but the demand for them became so great that the publishers finally decided to issue them under one cover. So here they are in their present form and designed only for the edification of the profession, any member of whom can procure the same by addressing Reed & Carnrick, Jersey City, N. J.

A Manual of Biological Therapeutics. Detroit: Parke, Davis & Co. 1914.

The above volume is a concise presentation of the method of production and uses of sera, bacterins, phylacogens, tuberculins, glandular extracts, toxins, cultures, antigens, etc. It is a volume of some 170 pages, embodying the experiences of Parke, Davis & Co. with these biological products.

MARYLAND MEDICAL JOURNAL

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BALTIMORE, MARCH, 1915

THE HARRISON ANTI-NARCOTIC LAW.

By an act of Congress, approved December 17, 1914, it is provided that on and after the first day of March, 1915, every person who produces, imports, manufactures, compounds, deals in, dispenses, sells, distributes, or gives away opium or coca leaves or any compound, manufacture, salt, derivative, or preparation thereof, shall register with the collector of internal revenue of the district his name or style, place of business, and place or places where such business is to be carried on; provided, that the office, or if none, then the residence of any person shall be considered for the purpose of this act to be his place of business.

It is also provided that any physician desirous of availing himself of the privilege of dispensing those drugs coming under the provisions of this act shall register with the collector of internal revenue of his district not later than February 28, 1915. At the time of such registry and on or before the first day of July annually thereafter a fee of $1 shall be paid.

Though this law may seem drastic and unreasonable, the benefits accruing to the public so far overbalance any inconvenience to the physician that he should welcome the innovation. Doubtless it will work hardships upon drug habitues. As regrettable as this is, still it is for the best, and those victims who must have their dope can do so by applying to the proper hospitals for treatment. In the case of Baltimore, drug victims will be received at the City Hospital, Bayview, for treatment. It is also said that the Phipps Clinic will co-operate with the Supervisors of City Charities. One

can readily understand the desperate condition these victims find themselves in when the act, a Federal law, provides the channels along which narcotics must proceed from importation to final distribution, and has apparently everywhere thrown safeguards sufficiently comprehensive to check any illicit distribution. It can only be dispensed to the public by the druggist on the order of a practicing physician or dentist. All druggists filling the prescriptions are required to keep careful records of transactions, noting the name and address of the physician writing the prescription as well as the name and address of the person presenting it. Moreover, the physician writing the order must do so in duplicate and keep the copy on file for two years for inspection on demand of duly authorized agents of the Treasury Department. A record of the drugs coming under the operation of this law directly dispensed to the patient must be kept. This record must show the date when the drug was dispensed, the kind and quantity, the name and residence of the person to whom dispensed. As above, this record must be kept for two years subject to inspection as provided in the act. Preparations that do not contain more than two grains of opium, one-eighth of a grain of heroin, one-quarter of a grain of morphia, or one grain of codeine per ounce are exempted from the provisions of this act, also preparations for external use only, save those which contain cocaine or any of its derivatives.

The law also provides that physicians must take stock of the drugs coming under its provisions in their possession, and when ordering must do so on special blanks provided by the department at the rate of $1 per 100.

The law makes it unlawful for any person not registered to have in his possession or under his control any of the drugs coming under the operation of the act, with the exception of any employe of a registered person, or a nurse under the supervision of a physician, dentist or veterinary surgeon registered under this act, or to any United States, State, county, municipal, district, territorial or insular officer or official who has possession of said drug by virtue of his official duties. The violation of any of the provisions of this act entails a fine of not more than $2000 or imprisonment for not more than five years, or both, in the discretion of the court.

The above is a brief statement of the salient features of the Harrison Anti-Narcotic Law. At first physicians may find it annoying to comply with its many provisions. However, it is a good and a wise piece of legislation, and beneficent.

Medical Items.

The Fifth Annual Health Conference of the Medical and Chirurgical Faculty of Maryland was held in Osler Hall, 1211 Cathedral street, Baltimore, February 8-13, 1915. A number of interesting addresses were delivered and papers read by eminent physicians. On February 8 Governor Goldsborough and Dr. Harvey W. Wiley delivered addresses. The subject of Dr. Wiley's address was "The Wealth of Health." On February 9 Dr. W. L. Rodman, president-elect, American Medical Association, read a paper on "The Prevention of Cancer," and Drs. J. C. Bloodgood, Randolph Winslow and A. C. Harrison delivered addresses on "Local Aspects of the Cancer Question." On February 10 Dr. Arthur Cramp, associate editor, *Journal American Medical Association,* delivered an address on "Fakes and Frauds in Medicine." On February 11 addresses were delivered by Dr. Wm. Burdick, director, Public Athletic League of Baltimore, on "The Physical Aspects of Play," and Dr. Adolph Meyer, director of the Phipps Psychiatric Institute, on "Mental Hygiene of Childhood"; on February 12, by Dr. W. C. Rucker, Assistant Surgeon-General, U. S. P. H. S., on "The Menace of Bubonic Plague," and Dr. Wm. R. Stokes on "Vaccines and Antitoxins as Curative and Preventive Measures"; on February 13, by Dr. Nathan Gorter, Health Commissioner of Baltimore, on "Sanitary Needs of Baltimore," and Dr. John S. Fulton, Secretary, State Board of Health. Moving pictures were shown at each session.

A series of lectures on "Seeing Nearby American First" were delivered by Dr. Henry O. Reik at the hall of the Medical and Chirurgical Faculty of Maryland for the benefit of the faculty building fund.

Dr. Joseph F. Munnerlyn has resigned as assistant resident obstetrician to the University Hospital and returned to his home in Chaffee, S. C.

Dr. Herbert A. Codington, assistant resident surgeon at the University Hospital, is convalescing from an operation.

The Brady Urological Institute at Johns Hopkins Hospital has been put into full service. Eight patients have been transferred from the hospital proper to the new rooms of the clinic. Fourteen ward patients were installed the first week. No ceremonies were held in connection with the inauguration, which took place on February 4. The formal dedication of the institute will be held in the spring. The building is entirely complete, with the exception of full equipment for the laboratory work and experiments. Nearly $250,000 has been spent in the venture, the gift of Mr. Brady, "Diamond Dick," of New York.

Dr. and Mrs. Winford H. Smith gave a large reception February 11 at the Johns Hopkins Hospital for the visiting physicians of the hospital, their wives, and also for the nurses. The guests numbered about 300.

The January meeting of the Baltimore County Medical Association was held January 20 at the Eudowood Sanatorium at the invitation of Dr. Martin F. Sloan, superintendent. Luncheon was served at 2 o'clock, followed by a paper by Dr. Sloan on "Artificial Pneumothorax Treatment of Tuberculosis," with demonstrations. Officers were elected as follows: President, Dr. Lewis H. Gundry, Relay; vice-president, Dr. J. Carroll Monmonier, Catonsville; secretary, Dr. Martin F. Sloan, Towson; treasurer, Dr. F. C. Eldred, Sparrows Point; delegates to the State Faculty, Drs. H. Louis Naylor, Pikesville, and L. Gibbons Smart, Lutherville. The retiring president, Dr. G. C. McCormick, made his annual address.

At the annual meeting of the Columbia University Alumni Association of Maryland, January 27, at the Young Men's Christian Association Building, Baltimore, Dr. William H. Welch was elected president.

Dr. N. E. Berry Iglehart entertained the Medical Dinner Club Saturday, January 16, at his residence, 1008 Cathedral street. The table was arranged in a color scheme of yellow. There are eighteen members in the club. They usually meet about four times during the winter.

Owing to lack of funds St. Luke's Hospital, Baltimore, has been forced to close. On February 1 it was officially consolidated with the Hahnemann General Hospital. All patients at St. Luke's were moved in ambulances and automobiles Saturday, January 30.

The consolidation has raised the number of resident physicians at Hahnemann General to 25. The nursing staff will remain about the same. Drs. William Dew and L. C. Clarke

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will be the chief resident physicians of the merged institutions, with Miss Louzetta E. Cornish as day superintendent and Miss Theresa Boose as night superintendent. To pay off the debt of St. Luke's Hospital a theater party was held at Ford's Opera-house February 9.

Now that the merger of the two hospitals has been completed, the board of directors announces that the present quarters of the Hahnemann Hospital, on North Mount street, will be rebuilt at a cost of $250,000. Plans for the new building and remodeling of the old ones have been completed. The funds to accomplish the purpose of the board will be supplied, it is said, by the national organization of homeopaths. It is not known just when the rebuilding of the institution will be started.

Under the auspices of the Ladies' Guild of Hahnemann General Hospital a bridge and 500 party was held February 8 in the old Fifth Regiment Armory over Richmond Market. There were 200 tables set and about 600 persons played. The proceeds will be devoted to paying for the newly installed sterilizing system at the hospital.

Dr. Henry Chandlee announces the removal of his offices to 2000 North Charles street, where the newest equipment has been installed for radiography and X-ray therapy. Dr. Chandlee is associated with Dr. R. Tunstall Taylor, professor of orthopedic surgery at the University, in orthopedic work as well as doing general radiography. Office hours, 12.30 to 1.30 daily, except Sunday. Other hours by appointment. Telephone, Homewood 2459. Dr. Chandlee resides at 742 West North avenue.

Dr. James McFaddin Dick, Salisbury, who underwent an operation for the removal of gall-stones at the Peninsular General Hospital last month, is improving slowly.

BIRTHS.

To Dr. Roscoe D. McMillan, University of Maryland Medical School, '10, and Mrs. McMillan of Red Springs, N. C., December 20, 1914, a son—Franklin Ellison. Mrs. McMillan was before her marriage Miss Gertrude A. Garrison, University Hospital Training School for Nurses, class of 1910.

MARRIAGES.

Samuel W. Moore, D.D.S., 1904, to Miss Margaret E. Lawrence, University Hospital Training School for Nurses, class of 1906, both of Baltimore, Md., at Baltimore, January 23, 1915. Dr. Moore is the official anesthetist to the University Hospital. They will reside at 1701 Guilford avenue.

Thomas Brooks, M.D., University of Maryland Medical School, '10, to Miss Dolores Maria Mason, both of Santiago, Cuba, at Santiago, December 9, 1914.

The engagement is announced of Dr. Walter G. Sexton, Johns Hopkins Medical School, '11, to Miss Ethel H. Morgan, both of Baltimore, Md. Miss Morgan is the daughter of Mr. and Mrs. Charles Morgan of Roland Park. No date has been set for the wedding.

DEATHS.

Charles Wm. Chancellor, M.D., formerly of Lexington, Va., but later of Washington, D. C., died at his home, 1712 N street N. W., Washington, D. C., after a short illness, aged 84 years. Dr. Chancellor served with distinction in the Confederate Army and was medical director of General Pickett's brigade. After the war he located in Baltimore and became a prominent physician here. He was secretary to the Maryland State Board of Health, and later president of the Maryland State Insane commission.

Henry C. Shipley, M.D., University of Maryland Medical School, '65, formerly of Eldersburg, Md., later of Washington, D. C., died at the home of his daughter, 1935 Summit Place, N. E., Washington, D. C., after a lingering illness, February 11, 1915.

Henry Walton Wood, M.D., University of Maryland Medical School, '02, of Boston and New Bedford, Mass., a Fellow of the American Medical Association and a specialist in mental diseases, died in the Jefferson Hospital, Philadelphia, January 12, 1915, aged 35 years.

Thomas F. Keen, M.D., University of Maryland Medical School, '81, formerly a member of the Medical Society of Virginia, president of the Hamilton (Va.) Bank, one of the most widely known practitioners of northern Virginia, died at his home in Hamilton, January 24, 1915, aged 57 years.

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PERITONITIS: REPORT OF 100 CASES.

By Frederic Rankin, M.D.,
Instructor in Surgery in the University of Maryland.

In reporting the following 100 cases occurring in the service of Dr. Frank Martin we have not selected any particular variety of peritonitis, nor excluded any bad cases, but have taken the last 100 cases operated upon as they appear and without regard to either etiology or fatality. The term general peritonitis has been used for some time to define free pus in the peritoneal cavity, without making any comparative attempt to differentiate the degree of contamination. We have classified our cases as localized, diffuse and general, meaning by the latter term that the several fossae of the peritoneal cavity are invaded, and that its whole has been contaminated, whilst by diffuse we mean to convey that a contamination of the general peritoneal cavity is taking place, that infection is spreading, but at the time of operation is confining itself to at least two quadrants of the abdomen, without in any sense being limited by the abscess walls. The term localized, of course, explains itself.

In this series of cases the etiological factors have been as follows:

Gastric ulcer	4
Duodenal ulcer	1
Traumatic ruptured intestine	2
Salpingitis	8
Strangulated, perforated, diverticulum, Meckel's	1
Intestinal obstruction due to gall-stones	3
Tuberculous peritonitis	3
Cholecystitis	3
Appendicitis	75

The bacteriological report on all these cases has not been available, owing to numerous circumstances which occur in every clinic, and hence the detailed report of this side of the question is withheld. However, in five cases of appendiceal origin the pathologists reported streptococcus as the predominating organism and in a great majority of the remaining cases the following: "Colon predominates, but numerous staphylococci are present," was rendered.

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and in a number of cases, however, he reported in addition to the colon bacillus and staphylococci that streptococci were also present. In view of the fact that the rapidly growing colon bacillus blots out the other more slowly developing organisms, streptococcus very likely is present in the vast majority of all the cases of peritonitis where the intestinal content is poured into the peritoneal cavity.

In the appeniceal cases the appendix has been post-cecal 11 times, although the peritonitis was general. In 16 cases of appendiceal origin the peritonitis was localized.

The youngest case operated on in this series was two and a half years old, the oldest 65 years old, the majority of the cases occurring between the ages of 20 and 35.

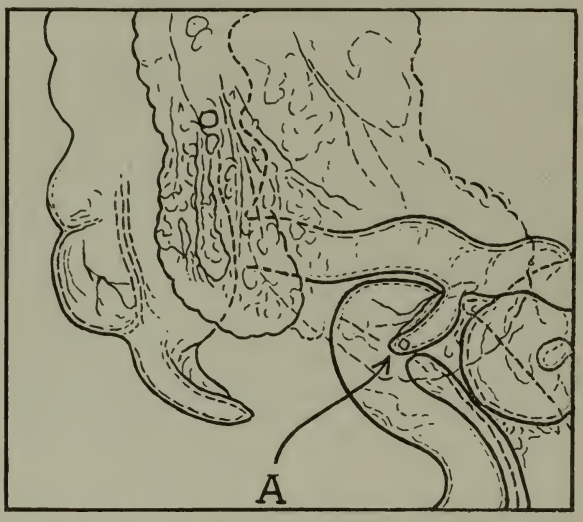

Fig. 1—"A" shows the diverticulum as it lay in position in the abdomen, with adherent intestinal loops and omentum.

Of the four cases lost in this series the etiological factor was as follows:

Tuberculous peritonitis	1
Gastric ulcer	1
Duodenal ulcer	1
Appendix	1

The following seven cases are reported in detail because of their comparative rarity, including as they do three cases of gall-stones which had perforated into intestines and later causing obstruction and peritonitis, peritonitis from a strangulated Meckel's diverticulum and a pneumoccocic infection:

Case 1. That of a child, aged seven years. Patient was taken ill on the morning of November 26th with severe abdominal pain and her family physician, who was called in the following day,

found she had tenderness over the abdomen. He saw her again that evening and found her vomiting, with pain in abdomen and tenderness. Temperature 103. At the time of admission to hospital there was considerable stiffening of the abdominal wall and tenderness, more in right than in left abdomen. Point of greatest tenderness was in the lower abdomen in the region of the appendix. She had been well prior to this, had been up and about and going to school. On the 27th of November the temperature had gone up to 104 1/5, pulse 160. The child looked quite ill. On account of the marked evidence that the trouble was general peritonitis an incision was made through right rectus. As soon as the peritoneum was opened the pus welled out. It came from every quadrant of the abdomen. The appendix was sought and found red and congested, but not perforated. The appendix was removed in the usual manner and the pelvis investigated. A lot of thick pus welled up, some was taken for culture purposes, and a tube placed in the pelvis, along with three rubber tissue iodoform tucks. The abdomen was closed with cat-gut sutures. Skin closed with sub-cutaneous silver wire. An examination of the pus at once showed that a diplococcus (?) was the predominating organism. The patient, after a very stormy convalescence, finally left the hospital in good condition.

Pneumococcus peritonitis occurs most frequently in children, and is being recognized more often than formerly because surgeons are on the lookout for it. The disease was first described by Bozzolo from autopsy findings in 1885 and first operated on by Nelaton in 1890. Annand and Bavin in 1906 collected all cases reported up to that time and found 91 in children under 15 years of age, and that the female sex seemed more invaded than the male. The greater frequency of this condition in females has been attributed to an ascending pelvic infection, in which the peritoneum was infected by way of the open end of the Fallopian tube, just as gonorrheal peritonitis is brought about. There is very little proven in support of this theory. Pneumococcus vulvovaginitis has been very difficult of demonstration in cases of peritonitis due to this organism. Sources and avenues of infection still remain uncertain. There are a number of possibilities: The peritonitis may be a part of the general sepsis; it may be secondary to an infection elsewhere, and the infection may travel along the lymphatics or by planes of tissue by continuity; or the peritonitis may be a primary infection. In support of the latter possibility it must be remembered that the pneumococcus is normally found in the throat and must therefore be swallowed with saliva. Although the organism's growth is inhibited in an acid media, still the stomach contents at times is not acid. Also, an enteritis is rather a constant early symptom of pneumococcus peritonitis, thereby suggesting an infection of the mucous membrane of the intestinal tract, produced by this microorganism. Still further, the pneumococcus has been isolated from an ulcer or Peyers patch. Clinically, the peritonitis is often secondary to a pneumonia,

and in a number of instances autopsy failed to show any involvment of the diaphragm. It is not believed that continuity of tissues plays much part in the involvment of the peritoneum, and opinion is divided as to whether the infection is a hematogenous one or due to ingestion, with perhaps the weight of belief in favor of the blood stream as the carier of infection.

Case No. 2. Obstruction of bowels from gall-stone impaction with general peritonitis. History: He is a farmer, a slender, thinnish man, whose previous history does not seem to be of a personal condition, as far as can be ascertained. He has been moderately well, has had some indigestion, but nothing specific that bears upon the condition found at the time of operation. When first seen he presented a typical picture of acute intestinal

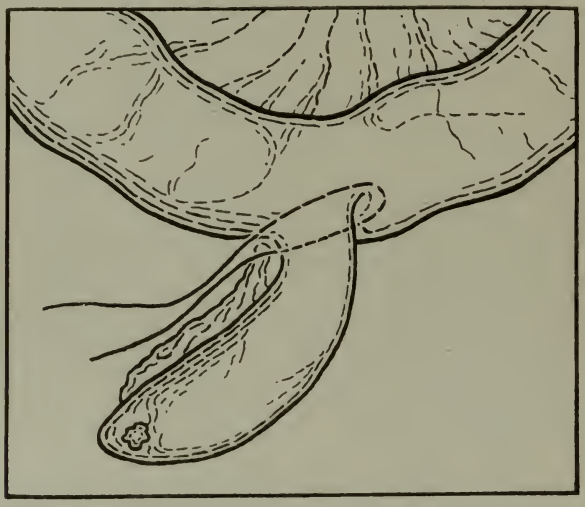

Fig. 2—Shows the diverticulum with the purse-string suture in position.

obstruction, with the entire symptom complex of this, which had existed, so far as could be ascertained, for five days. His symptoms were those of a badly poisoned man. His face was pinched and there was a persistent vomiting of a fecal character, just that gulping vomiting that goes with obstruction. There was more or less persistent pain, active peristalsis, and on inspecting the abdomen it was found enormously distended, with a characteristic Von Wahl's loop carefully mapped out; that is, with an attack of pain-coming-on. Peristalsis was noted, and in the height of peristalsis large distended loops of small intestines could be seen on the abdomen with characteristic ridges between them. Along with this there was a history of being unable to get the bowels open, and in spite of purgation and enemas the obstruction was getting more and more noticeable. He had a small wiry pulse, not very rapid, and with practically no temperature, 99 by rectum. Under ether a large incision was made in the right rectus

muscle, and as soon as the peritoneum was opened a lot of murky serum came up, and then large ballooned loops of small intestines began to bulge through the incision, which was made purposely well to the right in order to gain easy access to the right iliac fossa. A hand was passed down and found a mass, from which ballooned intestines could be seen coming away, and to which the collapsed small intestine could be traced. The intestines were now packed off with Mikulicz pads wrung out in salt solution and the seat of obstruction inspected. Around this mass were a great many adhesions of dense character, which were separated with scissors and knife. After the adhesions were loosened, upon lifting up one loop of intestines which happened to be a portion of the ileum, about six inches from the ileo cecal valve, it was found to have an opening in its lumen and mucous bubbled out. There was no escape of fecal matter from it, however. A purse-string suture was put around it and the opening closed. On continuing to separate the adhesions at this point between apparent coils of intestines, the opening into the lumen of the ulcer was found and a gall-stone revealed. Further separation revealed that there had been an opening made between these two adjacent bits of intestines, being doubtless a laceration from one to the other produced by the gall-stone. In other words, an anastamosis had occurred between these two loops. Further efforts to separate the loops revealed that the loop in which part of the gall-stone was lying was the bulbous end of the appendix, and by freeing the adhesions of the meso-appendix it could be gotten up and clearly demonstrated that the ulceration had taken place between the ileum and the bulbous appendix. By this time the stone had rolled out and a pack of gauze wrung out in salt solution was packed into the intestines to keep its contents from coming out. The appendix was then gotten up at the cecal junction. The piece of ileum that was adherent to the brim of the pelvis was freed, at which point, proximal to the lodgment of the stone, the gut was completely obstructed. It was impossible to do anything with it while down in the pelvis so far, so the adhesions were freed and finally this portion of the ileum was gotten up. A certain amount of fecal matter retained back of this point gushed out. This was quickly packed off and very slight contamination took place. After getting it where it could be worked upon three fixation sutures were put in so as to close the opening promptly. It was at least an inch long and to the side of the bowel rather than its free surface. After getting the mucous membrane inverted, fixation sutures in and the opening fairly well closed with Lembert sutures, the serous surfaces were brought together. This closed the opening nicely, without in any way impinging on the normal lumen of the bowel at this point. After this was finished it was noted that the current in the intestine was re-established and the constricted point opened up nicely. The impression of the bowel was clearly shown and presented the appearance of a piece of bowel which had a thin strip of tape tied around it. The vitality of the tissues was good

and gave the impression that they would recover without difficulty. The pelvis was drained in the usual manner with cigarette tucks of iodiform gauze and a fair-sized rubber-tissue tube, one rubber-tissue tuck was placed down to the point where the intestines had been sutured and the obstruction had been. The abdomen was closed with catgut for the peritoneum and fascia, and fine silk for the skin. The patient was shocked somewhat by the operation, but had a fair pulse. He was given 500 to 700 c. c. of normal salt solution under the breast during the operation, and went off the table in fairly good shape. The operation took one hour and a half, but he reacted nicely and the vomiting stopped, and on the following morning his condition was exceptionally favorable. He had a pulse of 80, temperature normal and drainage free. He was

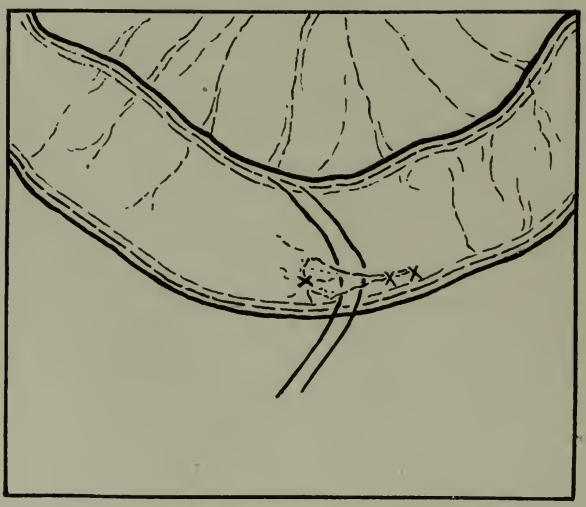

Fig. 3—Shows the diverticulum removed, its end invaginated, and the peritoneum covered over with Lembert sutures.

treated along the line of general peritonitis; that is, the Fowler position, normal salt by rectum, nothing by mouth. Drainage was properly diminished, the abdomen healed nicely and the patient left the hospital on October 29th entirely recovered.

Case No. 3. Intestinal obstruction with peritonitis, due to gall-stones. Patient, Mrs. V. Aged 62. December 14th. Under ether an incision was made through the left rectus and as soon as the abdomen was opened coils of distended small intestine bulged into the wound, and a lot of dark, turbulent, bloody fluid came out of the peritoneal cavity. A search of the abdomen revealed a hard mass in the region of the left iliac fossa and the small intestine. This was gotten into the wound and distal to it the small intestines were all collapsed, proximal, all distended. In endeavoring to ascertain what portion of the small intestine the obstruction was in it was found to be about eight inches from the ileo cecal valve

of the ileum. The rest of the abdomen was packed off with Boston pads wrung out in normal salt and the intestine opened opposite the mesenteric border and a large, impacted gall-stone removed. Quite a little contents of the bowel escaped, and the hole was sutured up with interrupted sutures, taking in all the coats, and then Lembert sutures put over it. The pelvis was drained in the usual manner, the patient treated as all other general peritonitis cases are treated, drainage promptly removed and patient made an excellent recovery.

Case No. 4. Mr. H. P. Aged 27. History: February 11th. This morning he was with his team and the pole of the wagon struck him in the abdomen, giving him a severe blow, and in addition to this he was caught between the pole and hitching post and pressed upon. He was immediately sent into the hospital with violent abdominal pain, vomiting, no temperature, but a stiff abdominal wall. With this history and a diagnosis of possible rupture of the bowel a laparotomy was done. Upon opening his abdomen a lot of thick, purulent exudate poured out, and it was noted that over the intestines lymph poured out and a beginning peritonitis was found everywhere. The patient was disemboweled and the small intestine searched carefully and a small hole on the free border of the ileum, about two feet from the ileo cecal valve opposite the mesenteric attachment, was discovered. The hole would admit the end of a finger and was closed with the Connell suture, longitudinally, and then whipped over with Lembert sutures. Although the rest of the small intestine was carefully examined, no other perforation was found, but a great quantity of exudate and pus existed throughout all the abdomen. The patient was flushed out with normal salt and the lymph washed off, the bowels replaced in the abdomen and pelvis drainage of a tube and two cigarette tucks placed. The wound was closed with cat-gut and silver wire. The patient made an uninterrupted recovery and left the hospital at the end of three weeks.

Case No. 5. Ruptured intestine with general peritonitis. Patient, Mr. W. W. M. Aged 34 years. History: He was playing football two days ago, when he received a blow in the lower abdomen. Five minutes after that he was taken with severe abdominal pain, which was followed by marked stiffening of the abdomen, which persisted. He was brought down to the hospital late last night, having had one-fourth and one-sixth grain of morphia given him. Leucocyte count 23,000. Abdomen board-like. Pulse 110. Very little temperature by mouth, but 101 by rectum, but the board-like abdomen was very pronounced. Upon opening the abdomen it was found to be full of pus, one of the cases of a diffuse, general peritonitis. The hole in the bowel was in the small intestine, some distance from the ileo-cecal valve. The loop was over towards the left side and there was lots of fresh exudate all over the coils of intestines and the fecal contents poured out of the opening. Upon putting the hand in the pelvis about a quart of ill-smelling pus was evacuated. The intestines were packed off with Boston packs

soaked in salt solution. The injured loop was pulled out of the belly and let empty itself. The intestines were pretty well engorged, and there was quite a lot of stuff in the small intestines, due to the fact that he had been given castor oil, calomel, etc. All the contents of the intestines possible was emptied, and the opening, which was about half an inch long, running transversely in the wall of the bowel, in fact, from the mesenteric attachment, was sutured over with a roll of interrupted sutures and covered with three or four Lambert's to bring the serous coats together. A large tube and some cigarette drains were placed in the pelvis and the incision closed with catgut and silver wire. The patient was infused on the table 700 c. c. of normal salt and was very much shocked when the operation was over. Four days later intra-abdominal symptoms seemed better, but he had a gangrenous infection with blush all over the abdominal wall. The wound was laid open, packed with bichloride gauze and hot dressings applied continuously. At the end of ten days the whole picture was better, the wound infection was subsiding, the intra-abdominal symptoms were disappearing, and the patient seemed on the road to recovery. After fighting down this infection the patient made a rapid recovery, and left the hospital at the end of four weeks, but with a very weak abdominal wall, which has later been repaired.

Case No. 6. Mrs. P. Aged 44 years. November 9. History: She has been in bed since November 3. She has had considerable tenderness in lower abdomen and some temperature. On the evening of November 8 her temperature became much higher, reaching 104. For some weeks past there has been a vaginal discharge, profuse and bloody, and the supposition is that she has an infection which started in this way, extending up the tubes, causing peritonitis. Leukocyte count 28,000. A mid line incision was used to open the abdomen, which was very fat and pendulous. The peritoneum was thickened and much inflamed. As soon as it was opened quantities of pus came out. Upon investigating the cause of the trouble, large ballooned pus tubes were found. The leakage had occurred from these, and she had in consequence a gangrenous condition in the pelvis, and any quantity of foul-smelling pus, and general peritonitis. The tube on the right side was as large as two fists, adherent and lying back in the pelvis back of the uterus. Its walls seemed to be gangrenous and the peritoneum to which it was attached by dense adhesions seemed likewise gangrenous. It ruptured in the effort of getting it out and a large amount of pus came out with it. It was gotten up quickly and rapidly sectioned off, clamping off its blood supply. The same condition was found on the left. Although enormous, it was not quite as large as found on the right side, but more adherent and more gangrenous. This was gotten up, clamped off, and gotten away. This left the necrotic uterus, which was taken away, completing the hysterectomy. The stump was closed over it, drainage was put into the pelvis in the usual man-

ner, and the patient returned to bed in a very much shocked condition. She was given the usual treatment for peritonitis and left the hospital entirely healed at the end of three weeks.

Case No. 7. Strangulated, perforated, Meckel's diverticulum with general peritonitis. Mr. V. P. R. Aged 39 years. Operation February 8. History: As far as he knows he was well the day before, but in the early morning of the 8th he had a severe abdominal pain. On account of a certain amount of constipation he had always been accustomed to take some mineral water, and on the coming on this pain he took some of this water but without the usual effect. The pain went on and became more severe, and he took some castor oil and whiskey. He got up after awhile and went down to attend to some business, and towards midday ate some lunch. Then he became nauseated and vomited. He went home about midday and his family physician was called to see him. He had some vomiting, great pain radiating all over abdomen, with tenderness, and with a sore spot to the right of the mid line below the umbilicus. He had been seen by his doctor at 4 o'clock when his pain was so great, and suspecting renal colic, he was given two hypodermics of morphia. At 9 o'clock that night he was brought to the hospital with a leukocyte of 18,000, rectal temperature 102⅘, pulse 108, with a tense, tender abdomen. A diagnosis of profuse peritonitis was made and an immediate operation advised. The advice was accepted and under ether the abdomen was opened through the McBurney incision, and as soon as the peritoneum was opened pus welled out, and investigation through the abdomen showed pus coming from every quadrant. A large thick piece of omentum was adherent to the inguinal canal on the right side, and had to be loosened before the right iliac fossa could be explored. This having been loosened, the appendix was sought and found to be normal. He was very distended and the small intestines kept bulging out, and in their bulging a piece of small intestine came through, which was covered all over with fresh inflammatory exudate and stuck together in coils, and in separating these coils and getting rid of the exudate, bubbles of air came out from apparently one of the coils and a small perforation was found in what looked to be a bit of small bowel. On pulling this up further and separating it, a strangulated Meckel's diverticulum was recognized, having perforated at its end and leakage occurring. It was a short diverticulum, coming off from the small intestines about two and a half feet from the ileo-cecal valve. The omentum was stuck down over this and the coils of intestine immediately around it were stuck together. These were pushed back and packed off. The diverticulum was straightened out, a purse-string suture put around it close to the intestinal wall where it came off. It was somewhat invaginated and a Lembert suture placed over it. Drainage tubes and cigarette tucks were put in the pelvis and the abdomen closed around them in the usual manner. The patient made an uninterrupted recovery and left the hospital on the eighteenth day cured.

Treatment: The treatment of the three stages of peritonitis, namely, prior to operation; second, the operative stage; third, post-operative stage, so markedly differs as to require their consideration separately.

Of the treatment of peritonitis prior to operation it may be said that surgeons within the past decade have done much to simplify and advance it, but in no abdominal condition is such a fine adjustment of judgment, such an insight into existing conditions still necessary in order that the patient may gain every advantage to fight his infection. It is at this time that the surgeon is called upon to decide whether or not his patient will be benefited by an immediate operation or whether by waiting twelve, twenty-four hours, or longer, he will be able to operate under more favorable circumstances. That the aphorism of Ochsner that patients came to the surgeon too late for an early operation, and too early for a late operation, is quite as true today as formerly, and upon this hinges the question of judgment on the surgeon's part as to the proper time to operate. Obviously, the patient, already toxic from the peritoneal infection which is not spreading, but showing a tendency to wall off, is better treated by expectant methods, especially if the exhaustion and worry of a long trip into the hospital has been added. Many cases, in fact the vast majority of advanced peritonitis cases, are brought into the hospitals from the surrounding country villages where a surgeon is inaccessible, or for other reasons delay has supervened, and necessarily the added exhaustion of an uncomfortable ride increases the already serious condition. Such cases, far advanced, where the tendency of the infection is not to spread, we believe are best waited on. If, however, the case is an early one; that is, the peritoneal contamination is under 48 hours old, it has been our rule to operate immediately. Hard and fast rules are impossible where combating such a condition, and there is a certain intuition which obtains in these cases as to when it is best and right to operate: The patient's expiration; the tone and rate of the pulse; feel of the abdomen as imparted to the examining finger, "whether it is stiff, boardlike, and scaphoid, or whether there is present distended meteorism," all tend to influence one's judgment as to the time of operation. In beginning peritonitis in the abdomen instead of being, as it generally is, hard and scaphoid, if found to be tense and distended, the condition is more grave and consequently the prognosis is less favorable. Hence, the question when to wait is a very vital one in the treatment of this condition, and the mortality is very relative to the nicety of judgment in ascertaining just when operative interference is more advantageous.

In this series of cases we have used the expectant cases on but nine patients, all having their peritonitis from a ruptured appendix, and the routine measures were as follows: A sitting posture, nothing by mouth, ice bags to abdomen, normal salt proctoclysis. By sitting them up and draining the contamination into the pelvis, whence on account of the lymph supply it is not

disseminated, a localized abscess is formed and the general peritoneal cavity shut off. The normal salt allays thirst and at the same time acts as a diluent to toxins. Occasionally a proctoclysis of 10 per cent. solution of dextrose has been substituted for the normal salt, and while not so much of the solution will be absorbed, its nutritive qualities are of advantage. For the pain and to quiet the peristalsis, small doses of morphia, one-sixteenth to one-eighth of a grain, are given as frequently as necessary, and in highly sensitive people with a tendency to be anxious and apprehensive about their condition its value is unquestionable.

Second stage. In operating upon this series of cases where the diagnosis of peritonitis due to appendicitis was made positively, the McBurney incision was used in all males except two, and in these the right rectus incision was employed, owing to symptoms of obstruction being present also. In 67 cases the McBurney incision was employed; in 24 the right rectus route was chosen; and in nine the abdomen was opened in the mid line. For anesthetics, ether and a combination of ether and nitrous oxide have been employed invariably. In this clinic chloroform is never used, it being considered too dangerous to have a place in a surgical clinic, and local anesthesia also has not been employed. The appendix in the 75 cases operated upon in this series has been removed each time, no matter what its location. While this is not advocated as an infallible rule, yet we believe that the cases in which it cannot be gotten at safely are so comparatively small as to be insignificant. Where the etiological factor has arisen from infected tubes in women a complete hysterectomy has been done, believing the uterus to be useless under the existing conditions and better out, and also feeling that the added shock of removing it is negligible. Having removed the cause, so to speak, the remaining pus is mopped out with gauze and drainage established. The question of the kind of drainage is one of personal choice, and operators differ widely in this respect. We have invariably used the rubber tube about three-eighths of an inch in diameter and two cigarette drains of iodoform gauze wrapped in rubber tissue. The drains are put in the bottom of the pelvis, which is *always* considered the bottom of the abscess cavity, and put in before any sutures have been placed in the abdominal wall. If necessary, a finger of an assistant in the rectum is used as a girdle. We believe tubes to be the best method of drainage, *because they drain*, and have employed them with gratifying results in all peritonitis cases.

In operating upon these cases speed has not been considered so important a factor as gentleness in handling the tissues and intestines, and indeed we have noticed repeatedly that patients come off the operating table having been subjected to an hour of anesthesia, but no traction or trauma to the intestines, in a less shocked condition than one whose abdomen has been hurriedly opened, the cause of peritonitis quickly and none too gently removed, and the patient gotten back to bed in record time.

Post-operative stage: In post-operative treatment of peritonitis we have been inclined to discard in a large measure therapeutic agents and depend largely upon mechanical means, viz: the stomach tube and enema tube. Immediately following operation the patient is put in the sitting posture, the bed being inclined at an angle of about 45 degrees; all foods and medicines by mouth discontinued in an effort to keep the stomach entirely empty, and a proctoclysis of either normal salt or 10 per cent. sugar solution instituted. The substitution of sugar solution for salt is of special advantage in far-advanced cases where the patient is starved out as well as toxic, and the nutritive value of the sugar is of service, it acting as a diluent to the toxines at the same time. The average peritonitis patient will absorb about two to four thousand c. c. of either solution in 24 hours, but there is a point reached at which the bowel rebels and no further absorption takes place, but the solution accumulates in the colon, which becomes loaded with the poisonous products of the peritonitis, and resorption begins. When the bowel refuses to take up more solution, the residue should be syphoned off and the protcoclysis discontinued for several hours, and then restarted; the process of syphoning off the bowel repeated, and especially in the first 72 hours of the disease we consider it one of the most important steps in the post-operative treatment. With the patient in a prone position, a stiff rectal tube is inserted, and as much contents of the bowel as possible syphoned off. Following this, the rectum is distended with hot soapsuds, and in this condition it is often possible to insert the tube through the valves of the rectum into the descending colon. The bowel is then washed out with from one to two gallons of hot soapsuds. The syphoning is accompanied by gentle massage over the entire abdomen, beginning over the sigmoid and following the course of the colon around to the right iliac fossa, thus stripping the bowel of its contents from its last point first, just as one would twist the contents of a stuffed sausage. In this manner, which is practically without pain to the patient, the poisonous products of the intestinal tract are gotten rid of, reabsorption prevented, and peristalsis, which has been paralyzed, started up again. Instead of a stiff, rigid, meteoric abdomen, the patient is left in a comfortable state, with a softened, pliable, undistended belly. If nausea and vomiting persist in spite of nothing by mouth, the stomach is repeatedly and persistently washed out. For the first two days the bowel is syphoned off B. D., as a routine, and as much oftener as is necessary to prevent reabsorption or allay distention. At the end of 24 hours one of the cigarette drains is removed, and at the end of 48 hours the other. The tube is changed to one of smaller caliber at the end of 72 hours, and on the following day one of smaller lumen is again substituted and its length shortened. At the end of 72 hours drainage is very slight, and in the vast majority of cases unless a small pocket of pus is found at the bottom of the drain tract, the patient should show no temperature and be well along to recovery. By the end of the

seventh day all the drainage is out and the drain tract generally about an inch and a half in depth. This slight opening is kept packed with iodoform gauze and allowed to granulate up. The wounds heal rapidly and almost resemble a clean incision when the patient is discharged from the hospital. Thirteen days is the shortest period of recovery of any case of diffuse peritonitis in this series. Morphia is practically the only drug employed in these cases, and it has been given in small doses and only when patients complained of great pain or were very restless on following operation. All stimulants except the morphia have been rigidly withheld. Indeed, we believe that they are not only contraindicated, but harmful if administered in such cases and in large doses.

Feeding: Feeding has been begun at the end of 48 hours with small quantities of plain egg water and small quantities of broth, provided the nausea following operation has subsided and the patient retains the food.

In this series of cases the two complications most to be feared; namely, fecal fistula and post-operative ileus, have not occurred. Two post-operative hernias resulted, both in elderly women. In one case the perotinitis was from a ruptured appendix, and the hernia occurred in the McBurney incision which was left wide open at the time of operation. In the other case hernia occurred in a mid-line incision, which was used also for a general peritonitis from a ruptured appendix. Both conditions were subsequently corrected, with no ill results to either patient.

The suture materials in this series of cases have been plain catgut for the peritoneum, chromicized catgut for the fascias, and subcutaneous silver wire. Since instituting the use of catgut in drain cases, wound infections have disappeared, the wounds healing up so quickly and the irritation due to foreign bodies, such as silk, being done away with.

To summarize briefly, we believe first the selection of the proper time for operation is of the most material advantage to the patient.

Second: Ether and nitrous oxide and ether are the anesthetics of choice, and if properly administered are in no way harmful to a patient already decidedly toxic.

Third: Thoroughness should never be sacrificed for speed, for gentleness in handling tissues should be observed in all cases.

Fourth: Properly placed drainage and position of patient after operation are very vital factors towards success in combating with peritonitis.

Fifth: Constant and persistent syphoning of the bowel, ridding the patient of the poisonous products of his peritonitis and relieving the uncomfortable meteorism and getting the normal peristalsis rebegun tends both to the comfort and recovery of the patient.

Sixth: Therapeutic agents are of little or no value in combating this condition.

DIETL'S APHORISMS ON PHLEBOTOMY.*

By Norman B. Gwyn, M.D.,
Philadelphia.

While searching for some references upon the subject of bleeding in pneumonia, I was confronted with the familiar name of Dietl, Joseph Dietl of Vienna and Cracow, and found under it a long monograph, "Der Aderlass in Lungen-entzündung." The 102 clinical aphorisms with which this monograph terminates form the subject-matter of my paper.

"Der Aderlass" seemed to have helped to make Dietl's reputation long before his accurate description of floating kidneys and the crises which bear his name. It is generally referred to as one of his chief contributions to the medical sciences, and one naturally wondered after glancing at his tables of 380 cases if there might not be in 102 conclusions much that, at least, was interesting.

And interesting indeed I found them. Hippocratic at times in their truth and brevity. "Schlecht ist es wenn der Puls schon nach der ersten Venesection frei wird," might well have come from the *great collection* of aphorisms, while "Es gibt Pneumonien ohne Husten," "Es gibt keine chronische Pneumonien," "Die besten Pneumonien sind die bei denen nur wenig expectorirt wird," must satisfy the most vacillating student.

My interest waned somewhat on observing the date, 1848—twenty years after Louis; but the Cracow societies were still debating "bleeding in pneumonia." Louis was still showing an affection for early bleeding and tartar emetic, and I felt, moreover, that the observations of one, who at that early date, and long before it, would courageously carry through 189 cases of pneumonia, on dietetic measures alone, must not only be of interest, but of real value if honestly set forth.

As far as one can judge, Dietl advances his arguments against blood-letting quite as if Louis' great protest had never been made. Dietl's methods are nevertheless Louis' methods—careful clinical observations ending in accurate statistical details. One senses an imitation, but hopes that the omission of any reference to Louis' work is accidental. Andral receives recognition in a reproof for his bloodiness; Laennec is completely ignored.

Dietl, as he says in his "Vorwort," belonged to those strong "Antiphlogistiker," who still saw in the then bloody treatment of pneumonia their greatest triumph. Seventeen years previously some taint of heresy had crept into his mind, for in the years 1831-2-3 he had tried treating severe cases of pneumonia homeopathically—"Aber es fehlte mir jedoch der Muth den natürlichen Verlauf der Krankheit ruhig abzuwarten. Mit der zunehmenden Athemlosigkeit und Angst des Kranken stieg auch die meinige so hoch, dass ich in mitten der präsumptiven Arzneiwirkung

*Read before the Book and Journal Club of the Medico-Chirurgical Faculty of Maryland, November 17, 1914.

reuig nach der Lanzette griff, und, da diese in den meisten Fällen Erleichterung brachte, wieder zur alten Fahne schwur, der ich nun fester anhing als je."

Clinging "fester als je" he must have remained for nearly ten years, for his "Bezirks-Krankenhaus" appointment in 1841 found him "bleeding industriously."

Bleeding, however, had a rival. For many years Tartarus stibiatus had "proved itself" with the profession, and it was being found that in some cases one did not need to bleed if large doses of tartar emetic were given. The majority of teachers, even Louis, simply went from bleeding to antimony in twenty years. Dietl stepped from bleeding to large doses of tartar emetic with vomiting, from large doses with vomiting to small doses without vomiting, from small doses to no doses (an expectant treatment of pneumonia) at a revolutionary rate. Then followed three years' observation of pneumonia treated without bleeding, and at the end of this period was put forth the "Aderlassung in Pneumonie," a protest larger at least, and more elaborate, than the great protest of Louis.

It is not my intention to review critically Dietl's monograph; it might be entertaining, for the indications of his later therapeutic Nihilism are already apparent, but to most of us prolixity and a dogmatic positiveness would seem its chief characteristics, the carping reference to Andral is the only mention of any of the great teachers who had gone before him.

Almost every phase of pneumonia and the influence of bleeding upon it is taken up in the monograph; the aphorisms, of course, merely represent the crystallized result. Many have the stamp of originality, their brevity and conciseness is attractive to a degree. They can possibly be presented more briefly and agreeably by using some reconstruction; Dietl's scheme in general can be easily followed—certain conditions of pneumonia are taken up, the application of bleeding considered, the probable or actual results detailed, and the dire effects of bleeding stated.

Not every aphorism pleases. I will try to put before you the more interesting and the most original:

APHORISMS ON THE PRODOMES.

"The prodomes of pneumonia last longer in the young and strong, and those affected for the first time, are shorter in the aged, weak and those undergoing recurring attacks."

(2) "Venesection has the power to shorten the prodomal stages."

Dietl at no time denies that bleeding gives temporary relief.

APHORISMS ON THE DYSPNOEA SEEN IN THE EARLY STAGES OF PNEUMONIA.

"The pneumonia patient breathes easier after completed hepatization than before."

"The dyspnoea is not due to the filling of the lung cells with the plastic exudate."

"Complete hepatization may limit the respiratory movements without bringing about respiratory distress."

"The gaseous interchange in the lung cells is the ultimate inciter of the regulated activity of the nerve centers and the respiratory movements dependent thereupon."

"On account of the enormous accumulation of fibrin as a protein-oxide a large amount of oxygen is withdrawn from the blood, and since there is reduction of the blood cells (the oxygen carriers) this, the oxygen, is never replaced in the same proportion."

(12) "In pneumonia less acid is taken out of the atmospheric air than is necessary for oxidation of the venous blood and the vitalizing of the nerve centers."

(13) "The dyspnoea then must clearly be greatest during the period of the pouring out of the fibrin into the lung cells. Since then, the greatest call for, and the greatest deficiency of oxygen is taking place."

(15) "The pneumonic's dyspnoea is preferably induced by altered chemical proportions of the blood."

(17-18) "Venesection should relieve dyspnoea by helping onward a continuous blood stream, more blood being driven through the capillaries in a given time, and (18) no other means of treatment suffices so to relieve dyspnoea, but (16) venesection brings about in the blood the same alterations as the pneumonic process (reduction of red blood cells and increase of fibrin), so that generally, it must from *chemical* reasons rather increase than diminish dyspnoea."

ON THE HEART.

(24-23) "The exudation process, the underlying disease itself, is the most probable cause of the increased pulse rate, rather than mechanical obstruction or the reduction of the red cells."

(25) "The pulse rate drops after the venesection," but (26) "the influence of venesection is usually only transitory," and (28) "can only occur if the individual is sufficiently full-blooded."

(31) "In the unbled pneumonia there is seldom seen the same amount of cardiac disturbance as in the bled."

(32) "The tumultuous heart actions are in part consequences of the venesection."

ON THE PULSE.

Venesection followed very largely the pulse character. The quiet repressed pulse was considered favorable, the large dicrotic unfavorable, often seen in severe pneumonias and often bled for. To Dietl's mind large pulses more regularly followed bleeding, were a sure sign of increased serosity of the blood, and asthenia; it was bad if they followed the first bleeding, and, further, he asserts that the return to a small normal pulse from a large dicrotic one was never so quick in the venesected cases as in those treated by dietetic measures alone.

"The pulse of the pneumonias is dicrotic, but not completely so as in typhus."

"The repressed pulse of the older pathologists is the normal and favorable, the large dicrotic, the abnormal and unfavorable of the various pulses of the pneumonias."

"After single or repeated bleedings the pulse becomes large and dicrotic, it becomes 'free,' as one is accustomed to say. This 'becoming free' of the pulse is a sure sign of increased serosity of the blood and asthenia."

"It is bad if the pulse becomes free after the first bleeding."

"In pneumonia treated by venesection, the large dicrotic pulse never returns so quickly to the normal as it does in those treated by dietetic measures alone."

ON THE JAUNDICE SEEN IN PNEUMONIA.

Bilious pneumonias, our pneumonias with jaundice, were, by Dietl, seen to occur in direct proportion to the extent of the bleeding. Jaundice occurred but seldom in, and quickly disappeared from the cases not molested by the lancet. While, on the contrary, it could be seen to deepen after each opening of the vein, and, in many instances, was directly produced thereby. To instance this:

"The yellow color of the skin begins to decrease immediately after the completion of the exudate, and disappears within the shortest time."

"The yellow color of the skin occurs less often in the unbled cases."

"The jaundice increases after each bleeding."

"The jaundice is in many cases directly brought about by the bleeding."

It was interesting to note in connection with the question of jaundice in pneumonias that the pathologists of Dietl's time had recognized that obstruction of the large ducts, and gross liver changes were not usually demonstratable in the fatal cases; to fasten the blame for the jaundice upon the bleeding would be Dietl's natural inclination in this case, and in the substance of the monograph we find that "Venesection promotes excretion of and coagulation of the fibrin to a high degree, and from this comes an abnormal collection of pigment in the blood."

ON THE SPUTUM.

That group of aphorisms which concern the sputum and the effect of bleeding upon its character makes one feel certain that Dietl must have been quite unacquainted with both Laennec and Louis, or that he willingly is ignoring both. He still busies himself with the venesection's power to produce the "Sputa cocta" in the face of Laennec's clear description of the penumonia expectoration, and his assault on bleeding is delivered at Andral, quite over Louis' shoulder, as it were: "Andral und andere Beobachtern die die Lanzette stets bei der Hand haben." Two of the aphorisms stand out:

"The best pneumonias are those in which there is but little expectoration."

"The sputa cocta are not a necessary product, nor are they to be considered as a critical evacuation."

To these he adds the following:

"It is a very favorable sign, and one pointing to a quick resolution, if the expectoration ceases after completion of the exudate."

"In the treatment of pneumonia by venesection the sputa undergo several alterations among which is the transformation of the clear, tenacious expectorations into the so-called 'sputa cocta.'"

"Venesection favors the breaking down of the pneumonic exudate into pus or pus-like cells, and, indeed, 'sputa cocta' are often the product of venesection."

As we saw in aphorism 2, Dietl was fair enough to give credit to bleeding for certain minor qualities, one other of these was its apparent power to relieve cough in the early stages.

"Incontestable experience teaches that a single venesection will often lessen a cough or even completely subdue it."

"The short, dry cough of pneumonia is due to the hyperesthesia of the lungs."

"The actual cause of the cough is a bronchitis."

"Venesection lessens the cough by subduing the pulmonary hyperesthesia and by diminishing the bronchial secretion; a similar mode of action is at work in the relieving of the dyspnea."

Nihilism breaks forth in his declaration *"The expectant treatment has no remedy for the pneumonic cough."*

Few of us realize how drastic the treatment of disease could be before the various protestants had effected their reformation. The convalescence of any serious ailment must have been much prolonged, the critical resurrection of a pneumonia patient must have been often actually interfered with. Laennec realized this to a degree; Louis' arguments are always along rather different lines, and *he* could still see the marked improvement after the vomiting caused by the tartar emetic. Dietl would seem to strike here his highest note. Some of his aphorisms on this stage of pneumonia are:

"After the completed exudation in the unmolested pneumonia, the physiognomy expresses the highest degree of well being."

"In the cases treated by bleeding this favorable change of the physiognomy does not show in so striking a manner, because the weakness induced by the bleeding does not leave the patient free to enjoy his return to well-being."

"In the expectant treatment the appetite returns immediately after the completed exudation; there is seldom craving for heated foods."

"In the venesected cases the appetite returns but slowly, there is often a craving for hot food."

"In the cases treated by venesection there is much greater wasting than in those treated by dietetic measures."

"In the expectantly treated pneumonias the weakness vanishes with the completed exudation and the patient rapidly recovers;

in the venesected cases the patient may feel better, but he has yet to go through a long siege of weakness."

"The length of convalescence is much shorter in the expectant than in the venesecting treatment."

Dietl realized that bleeding had but little effect upon the lesion. He says in this connection:

"Clinical and physiological observations speak for the fact that bleeding has no power to limit the pneumonic exudate."

"Venesection even favors the extension of the hepatization."

"Many in- and extensive pneumonias occur and flourish under the lancet."

A few more generalized dicta remain; they lead us to a forceful climax.

"A pneumonia left to itself is very seldom fatal."

"Pneumonia treated by venesection is often fatal in itself."

"The expectant treatment of pneumonia shows a much more favorable mortality record."

"Venesection has a certain and none too innocent a part in the great mortality of pneumonia."

"Venesection kills by increasing the blood disturbance."

"Bleeding is not necessary to the re-establishing of health, and, therefore, is not indicated."

"Bleeding in many cases *works real harm*," and though "no measure may at times give such striking and quick relief," yet "the application of bleeding in pneumonia is to be limited to the utmost, or, what is safer, is to be thrown completely aside."

REVIEW OF DERMATOLOGY AND SYPHILIS.

By Lloyd W. Ketron, M.D.

REMOVAL OF SMALL-POX SCARS.

UNNA (*Berliner Klin. Wochen.* No. 40, 1914), after reviewing the various methods of removing scars by polishing stones and powders, electrolysis, scarification and peeling pastes, comes to the conclusion that the method of choice is the treatment with carbon-dioxide snow. In small doses it makes the tissues more liable to resorption and causes a raising up of the atrophic and sunken areas.

As long applications are to be avoided, and each person reacts differently to the snow, one must first test the skin to ascertain how much can be given without producing large blisters. In most cases 5 to 10 seconds is enough.

If the scars are very thick it may take 20 seconds. The size of the application should correspond exactly to that of the depression or elevation, as the case may be, although, in some instances, it is

best to treat large areas without reference to the individual scars, and later, if necessary, treat the remaining lesions separately. One does not wish to cause a necrosis of the cutis, but to better the circulation and raise the depressed areas, so that oft-repeated small doses should be used. Summing up, and using the best of the various methods, one can remove the coarsest disfigurements by the scarifications of Vidal; then, through electrolysis, the most apparent raised areas can be disposed of. After this comes the principal treatment with the snow, which may be followed by salicylic-acid plasters or better by the thiosiamin cataphoresis, which hastens resorption. For the last uneven areas the polishing methods are best.

LICHEN URTICATUS OF URTICARIA PAPULOSA.

This disease, although rare in this country, is of general interest because of its probable relations to some constitutional derangement. It is discussed by Barker in the December issue, 1914, of *The Practitioner*.

Following Darier, the author defines the condition as a prurigo characterized by (1) The appearance of papules of a distinct histological structure which often arise on an urticarial base. (2) The sudden outbreak of eruptive elements in crops on any part of the body. (3) The usual absence of lichenification or of any complicating eczematous condition. (4) A limited duration of some weeks or months, but a great tendency to recurrent attacks. (5) A prognosis which is on the whole favorable.

Barker believes that the condition belongs to the group described by Czerny and others as "die exudativ-lymphatische Diathese," and that there is evidence that it may depend on abnormalities of the ductless glands. The association of the disease with an unhealthy condition of the lymph structures, adrenals and with the alimentary symptoms characteristic of the exudative diathesis is too frequent to be coincidental.

The exciting causes are intestinal upsets, teething, external irritants due to vermin, coarse underclothing and decomposing sweat. The part psychical disturbances play is not clear, but it seems certain that insomnia and irritability produced by the itching prolong the attacks.

The treatment which is often unsatisfactory comes under three heads: (1) Alimentary. Carious teeth should be attended to and regularity of meals, with nothing in between, should be insisted on. Calomel should at first be given, followed by a morning purge, and afterwards the bowels kept regular. Intestinal antiseptics, such as ichthyol (2 drops t. i. d. for a young child), are often of value. (2) Local. Cool, non-irritating clothing should be worn next to the skin. A 10 per cent. menthol in zinc oxide ointment has given the best results for a local application. In the free periods, if the skin is dry and harsh, the Ung. glycerini plumbi subacetatis is of service in preventing recurrences. (3) Nervous system. Any source of reflex irritation should be removed. The tonsils, adre-

nals, foreskin, etc., should be investigated. When a sleeping mixture is indicated the bromides and belladona give good results.

MINERAL WATER METHODS IN THE TREATMENT OF SYPHILIS.

The success of one's treatment of syphilis depends a great deal upon the general condition of the patient. This is shown in the cases of malignant lues, where the inability of the patient to form antibodies makes the administration of antiluetic drugs of little value until his general condition is bettered.

Of the adjuvant measures in the treatment of the disease, the mineral waters occupy a very prominent place. These methods of treatment are discussed by Dr. Dardel of Aix-les-Baines. (*Urologic and Cut. Review*, October, 1914, Technical Supplement.) There are three kinds of spas adapted especially to the treatment of syphilis, namely, those containing chlorinated iodin waters, those with arsenical waters and those with sulphurous waters. These all exert complex actions on the various metabolic functions of the body, for which the reader must be referred to the original article. The action of the sulphurous waters are of especial interest because, in addition to their general action, they exert a definite action on the specific medication by facilitating the elimination and absorption of the mercury, thereby permitting a more intensive treatment.

This action of the sulphurous waters is explained by the writer as follows: "Metallic mercury and the various salts used in medicine are not absorbed in the metallic state, but in the form of the bichloride or such compounds as the chloro-bromin, chloroidin and chloro-mercury. * * * Bichloride of mercury forms, with albuminoids, a white precipitate insoluble in water. On the other hand, an excess of albumin or a solution of an alkalin chlorid can redissolve this precipitate of mercury albuminate and place it anew in the circulation. The sulphurous waters reinforce the compounds capable of redissolving the albuminate or mercury a great deal better than the sodium chlorid, which is the principal substance in the organism to bring about the circulation of the mercury. * * * The sulfurous waters may contain not only hydrogen sulfid and sulfates, but also alterable products of these substances, and the alterations are more rapid the more the water is charged with silicates. The sulfur of the hydrogen sulfid and the sulfates is set free by the action of the carbon dioxide and the oxygen; it then becomes oxidized itself little by little, giving rise to hyposulfuric acid, sulfuric acid or the soluble salts of these acids, the soluble sulfate representing the last stage of oxidation. In 1914 Desmoulieres showed experimentally this action of the sulfates on mercurial compounds. Adding 5 cc. of serum to 2 cc. of a solution of bichloride of mercury, he obtained a white precipitate. If now 2 cc. of the monosulfate of sodium (a 1 per cent. sol.) are added, the precipitate is at once dissolved.

"The hydrogen sulfid plays an analagous role to that of the monosulfate. The passage of small quantities of the gas allows the

redissolution of the precipitate of the albuminate of mercury. The hyposulfite and the sulfite possess the same power of solubility, but the sodium sulfate, on the other hand, has no such action. Therefore, the action of the sulfurous water is greater the more the products in the water are unoxidized."

Although the thermal cures are of advantage in every case of syphilis, the author believes that they are especially indicated in the following: (a) When the administration of mercury does not have the desired therapeutic effect. (b) When the necessary dose of the mercurial preparation is not tolerated. (c) If the Wasserman remains positive in spite of energetic treatment or if after treatment it becomes rapidly positive again. (d) If the syphilis has a malignant character, or if the nervous system appears to be menaced. (e) If the patient's general condition is bad, and in cases of hereditary syphilis.

As to the time of giving the thermal cure, i. e., during or after the mercury cure, the author believes that the results are far superior if the two are given together. By this method the solubility of the mercury is enhanced, and instead of accumulating in the tissues it is carried to all parts of the body in a soluble form and a culminative action is avoided.

The intramuscular injection of the soluble salts is the method of choice in the administration of the mercury because by this means one knows the exact dosage and the effect is immediate. The benzoate and the bibromid of mercury are preferred.

TREATMENT OF BROMIDROSIS WITH GLYCERINE.

Because of the effect of glycerine in preventing the formation of indol in cultures of indol producing bacteria, Benians (*Lancet*, December, 1914) conceived the idea of using glycerine in bromidrosis. The fermentation of glycerine also leads to the production of an acid medium, and this would tend to inhibit the growth of certain putrefactive bacteria. The results of the treatment were excellent, but a relapse always occurred when it was discontinued. As this, however, is true in many cases, no matter what treatment is used, the method may prove to be of service.

GERMICIDAL ACTIVITY OF CHRYSAROBIN.

Some rather interesting observations have been made by Schamberg and his associates (*Jour. Cut. Dis.*, January, 1915) on the comparative germicidal activity of chrysarobin and calomel. It was found that the former has practically no effect in inhibiting the growth of the staphylococcus albus in the test tube, while the latter absolutely stops the growth of this organism in quantities of .0005-.001 gram in 0.1 cc. of a 24-hour broth culture. The especial interest attached to these results is due to the fact that chrysarobin is the most powerful remedy we have against psoriasis, while calomel has practically no beneficial results in the treatment of this disease.

Book Reviews.

A Textbook of the Practice of Medicine. For Students and Practitioners. By Hobart Amory Hare, B.Sc., M.D., Professor of Therapeutics, Materia Medica and Diagnosis in the Jefferson Medical College of Philadelphia; Physician to the Jefferson Medical College Hospital; One Time Clinical Professor of Diseases of Children in the University of Pennsylvania; Author of a Textbook of Practical Therapeutics and Diagnosis in the Office and at the Bedside. Third Edition. Revised and Enlarged. Illustrated with 142 Engravings and 16 Plates in Colors and Monochrome. 1915. Philadelphia and New York: Lea & Febiger. Cloth. $6 net.

No one needs an introduction to the superior quality of the literary productions of Dr. Hobart A. Hare. His name attached to the title page is a sufficient guaranty of the character of the contents. As in his other writings, so here the style is easy, the language concise and to the point, thus enabling him to cover the most ground with the least amount of space. A noticeable feature of the book is the practical nature of the pages. Everywhere one is impressed with this utility feature. And why shouldn't such be the case, when one takes into consideration the long years spent by the author at that storehouse of medical knowledge, the patient's bedside. Each page impresses one with the profound acquaintance the author has of clinical medicine. Abundant and unstintedly has he transcribed this information to the pages of Hare's Practice of Medicine. Readers will find the volume well balanced as regards the amount of attention devoted to etiology, diagnosis, differential diagnosis, prognosis and treatment. They will also find incorporated in the text the latest scientific methods employed in diagnosis. The treatment is absolutely the latest, and absolutely reliable. Indeed, it is impossible to pick out any one aspect of the book in which it is weak. Some books are good on diagnosis, others on treatment, and so on, but here the student and physician gets a one-volume book in which every aspect of the subject under discussion is handled strongly and thoroughly, and withal sufficiently full to be intelligible. It gives us great pleasure to recommend the present edition of Hare's Practice of Medicine to the patrons of the Maryland Medical Journal.

Chemistry and Toxicology for Nurses. By Philip Asher, Ph.G., M.D., Dean and Professor of Chemistry at the New Orleans College of Pharmacy, New Orleans. Philadelphia and London: W. B. Saunders Company. Baltimore: The Medical Standard Book Co. 1914. Cloth, $1.25 net.

This book answers its purpose admirably, being a guide to beginners in chemistry and toxicology. The authors have with a keen perception of balance included just a sufficiency for nurses' purposes. The book is written in as simple diction as possible, so that the class to which it is directed can quickly obtain an insight into the elements of chemistry and toxicology. It is an excellent book and well serves its purpose.

MARYLAND MEDICAL JOURNAL

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BALTIMORE, APRIL, 1915

THE MORTALITY PROBLEM.

According to United States Government statistics, the annual death rate from the degenerative diseases is ever on the upward trend. The increase has become so alarming that this question to many far outweighs the prevention of tuberculosis, hookworm, and even cancer; burning problems as they are, they are minor in comparison with the degenerative diseases of the urinary and circulatory apparatus. All know that statistics can be twisted to subserve any end, that statistics cannot always be relied upon. But when we learn that there is an increase of 40 per cent. between the death rate of 1890 and 1910 from these diseases, surely it is time to give the question due consideration. Undoubtedly Americans have been living at too rapid a pace, else such would not be the case. Therefore it is time the public be educated in the early recognition of failing kidney or circulatory function. Arterio-sclerosis, chronic insterstitial nephritis, myocarditis and fatty heart are to a large extent preventable. They are largely due to abuse of the body by overeating and drinking, worry, lack of exercise, unnecessary infections, such as syphilis, typhoid, etc. There are now approximately 410,000 deaths in the United States annually from organic diseases from the kidney and circulatory systems, about 60,000 of which occur below the age of 40, 350,000 beyond. It is safe to say that at least 75 per cent. of these deaths could be postponed if the public were taught how to guard against these afflictions and how to live after their contraction. Such campaigns as have been waged against tuberculosis, etc., have exerted a powerful influence in lessening their prevalency; a similar campaign would likewise work wonders here. If the people could be made to understand that Bright's disease does not necessarily mean death, that at its

incipiency much can be done to retard its progress, then a big step forward in the prolongation of life would result. Such being the case, there is no excuse to longer ignore the waste of vitality and life that is going on in this great body of citizens. The Life Extension Institute has recently issued a pamphlet directing attention to this unnecessary economic loss, hoping thereby to interest the public and the profession in this aspect of medicine. To be sure, the pamphlet deals with the sinister side of the question, but most physicians will be thoroughly in accord with the statement "This adverse mortality trend from organic diseases can no longer be disposed of by the easy process of denying the accuracy of the statistics or of their analysis. Nor can it be solved by charactetrizing those who are calling attention to this condition as pessimists, for optimism of the most cheerful sort is the foundation upon which the movement to check this life-waste is built. If it were hopeless we would not engage in the effort. But by the application of knowledge which science and experience have given us, and because thousands of people have already learned how to ward off or postpone these afflictions leads us confidently to believe this excessive waste of mature and valuable lives can and will be checked." Those in charge of the movement have implicit faith in the ability of the American people to grapple with the problem when thoroughly aroused to its importance. So far the public has been too much engrossed in the gaining of wealth to realize its seriousness. Some, however, have noticed the trend of events and are alive to the necessity of focusing the public's eye upon what can be done in the prevention of organic diseases and prolongation of life after their onset. Now that the wave has started, it will gradually gather more and more force, so that in the not distant future the public will be as familiar with the measures employed in the prevention of organic diseases of the heart and kidney, as with those against the spread of tuberculosis. The remedy briefly stated is the diligent practice of personal hygiene. This implies the observance of moderation in eating and drinking, avoidance of overindulgence of any sort, total abstainance from strong drink, narcotics and tobacco, plenty of good healthy outdoor exercise, and a life of purity. A necessary adjunct in the prolongation of life is periodical physical examination, as thereby diseases of these systems are detected in their incipiency. We hope our readers will take this lesson to heart and exert all the influence they can in spreading the gospel of right living, and thereby aid in the prolongation of life.

Medical Items.

Dr. L. F. Barker of Johns Hopkins University delivered a lecture at Hood College, Frederick, Md., recently to more than 500 persons on "Maintenance of a High Standard of Public Health." The lecture was under the auspices of the Civic Club. Dr. Barker was the guest of Dr. Thomas B. Johnson. Joseph D. Baker presided. Following his address three-minute talks were given by Dr. Ira J. McCurdy, city health officer; Dr. Joseph H. Apple, president of Hood College, and Dr. T. Freeman Dixon, president of the Federated Charities. A rising vote of thanks was tendered Dr. Barker.

A campaign to raise $50,000 for the Skin and Cancer Hospital was started recently with a "tag day," in which the Ladies' Auxiliary of the hospital and several hundred girls took an active part, assisted by the Women's Civic League. The hospital was founded as a forerunner of a campaign in this city to educate the laymen in regard to cancer and its prevention and cure. In the two years since its opening it has cared for 336 cases, the majority of them charity patients and many of them not admitted to other hospitals—except Bayview—because they were in the inoperable and incurable class.

Dr. William H. Welch of Johns Hopkins University has been appointed a member of the "China Medical Board of the Rockefeller Foundation," of which John D. Rockefeller, Jr., is the chairman.

The city health officer of Cumberland has recommended the establishment of a sanatorium on Haystack Mountain for the cure of negroes afflicted with tuberculosis.

The Board of Estimates of Baltimore has given authority to Dr. J. Hall Pleasants, Jr., Johns Hopkins Medical School, '99, president of the supervisors of city charities, to spend about $10,000 on improvements at Bayview Asylum. It is thought that the tuberculosis ward will be practically rebuilt at a cost of $5000.

The seventeenth annual meeting of the Medical and Chirurgical Faculty will be held on April 27, 28 and 29 at the Faculty Building, 1211 Cathedral street, Baltimore, Md. Dr. J. M. H. Rowland is chairman of the Committee on Scientific Work and Arrangements.

Dr. William Lee Smith, Physicians and Surgeons, '87, of Riderwood, Md., who has been ill for some time, is slowly improving.

Dr. Newell A. Christensen, in charge of the accident ward of the Mercy Hospital, has tendered his resignation.

The National Conference of Charities and Corrections will be held in Baltimore from May 12-19, inclusive.

The Public Health Conference held recently proved so successful that it has been decided to hold a series of lectures on health topics for negroes exclusively.

To study methods employed in the Johns Hopkins Hospital, Dr. R. W. Large of Port Simpson, British Columbia, spent about ten days in the city last month. He also visited hospitals in Washington, Cleveland and Toronto. For nearly 16 years Dr. Large has labored in the great frozen regions, and his patients were principally lumber jacks and salmon canners. He traveled about among the sick on sleds, and until a short time ago the nearest hospital was 500 miles from Port Simpson. Recently a hospital has been opened at Prince Rupert, about 25 miles distant. Dr. Large is assisted in his work by his wife and five nurses, and the government lends aid to the hospital.

Dr. Nathan Winslow, of 3304 Walbrook avenue, Baltimore, announces that he will limit his practice to general surgery.

Dr. Robert L. Blake, Baltimore Medical College, '05, of 857 Columbia avenue, recently delivered a lecture at the Young Men's Christian Association on the prevention of tuberculosis.

Dr. Robert P. Bay announces the removal of his offices to The Walbert, 1800 North Charles street, Baltimore, Md. His practice is limited to general surgery. Consultation by appointment.

Dr. Lewellys F. Barker has been spending some time at the Greenbrier White Sulphur Springs, West Virginia.

Dr. Alan Churchill Woods, who has been the guest of his parents, Dr. and Mrs. Hiram Woods, at their residence on Park avenue, left

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recently for Boston, where he is connected with the Peter Brent Bingham Hospital.

The decennial celebration of the Phipps Tuberculosis Clinic of the Johns Hopkins Medical School was held February 24th in the amphitheater of the hospital. There were interesting discussions on various phases of tuberculosis.

The real work done in the clinic in the last 10 years is of great interest and importance to the public as well as the profession.

Since February 21, 1905, when the clinic was opened, there has been an unrelenting fight made on tuberculosis. The work has been done quietly in the little red brick building on Monument street, near Rutland avenue, but the results of that campaign have reached to many parts of the country.

In that time there have been approximately 10,000 persons treated.

Hundreds of students have been taught how to combat the plague. Many of these students, now doctors, are preaching this doctrine throughout the country.

Drs. Louis V. Hamman, C. R. Austrian, Samuel Wolman and others have spent years in investigation and research work.

Eleven years ago, when Henry Phipps, the Pittsburgh philanthropist, made a donation to Sir William Osler, then professor of medicine at Johns Hopkins, he said he wanted the money used where it could do the most good. Sir William suggested the founding of the tuberculosis clinic.

BIRTHS.

To Harry D. McCarthy, M.D., University of Maryland Medical School, '05, and Mrs. McCarthy of 37 West Preston street, Baltimore, February 18, 1915, a son—Horation Ball.

To James Herbert Bates, M.D., University of Maryland Medical School, '07, and Mrs. Bates of Millington, Md., February 28, 1915, a daughter—Margaret.

Recently to J. Dawson Reeder, M.D., University of Maryland Medical School, '01, and Mrs. Reeder of 639 Fulton avenue, Baltimore—a daughter.

MARRIAGES.

Frank M. Eccles, M.D., Physicians and Surgeons, '81, of Oxford, Md., to Miss Ethel Ray Neal of Cambridge, Md., at Baltimore, March 10, 1915. Dr. and Mrs. Eccles will reside in Oxford.

DEATHS.

D. Virginia Hilken, R.N., Mercy Hospital, Baltimore, class of 1913, died after a lingering illness at the Mercy Hospital, January 21, 1915. Her alumnae association passed resolutions upon her death, a copy of which was framed and hung with her picture in the Clubhouse.

Walter Linton Brown, M.D., Physicians and Surgeons, '13, died of heart trouble at Mercy Hospital, February 23, 1915, aged 41 years. Dr. Brown served as an intern in the surgical department of Mercy Hospital from June, 1913, to July, 1914. He was then made superintendent of the hospital in Richwood, W. Va., and remained in charge of that institution until he was taken ill in January.

Thomas E. R. Miller, M.D., of Lewistown, Md., died suddenly at his home, Valley View, February 28, 1915. Dr. Miller dropped dead in his office while prescribing for a patient.

Edward Francis Ford, M.D., Maryland Medical College, Baltimore, '91, a physician and druggist of Chester, Pa., died in the Chester Hospital February 4, 1915, from cerebral hemorrhage, aged 39 years.

Joseph Walter Sim, M.D., University of Maryland Medical School, '92, health officer of Glenwood, Md., died at his home January 8, 1915, aged 57 years.

James H. Glass, M.D., College of Physicians and Surgeons, '84, died at his home in Paso Robles, Cal., January 8, 1915, aged 57 years.

Abram Trego Shertzer, M. D., University of Maryland Medical School, '69, fleet surgeon of the United States Volunteers during the Civil War and staff surgeon in the German service during the Franco-Prussian War, a practitioners of Baltimore for nearly fifty years, local surgeon to the Pennsylvania System and the Baltimore City Railroad, died at his home in Baltimore January 22, 1915, from heart disease, aged 70 years.

Henry W. McLaughlin, M.D., College of Physicians and Surgeons, '85, died at his home in Marietta, Ohio, January 20, 1915, from locomotor ataxia, aged 54 years.

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SIR MICHAEL FOSTER AND THE CAMBRIDGE SCHOOL OF PHYSIOLOGISTS.[1]

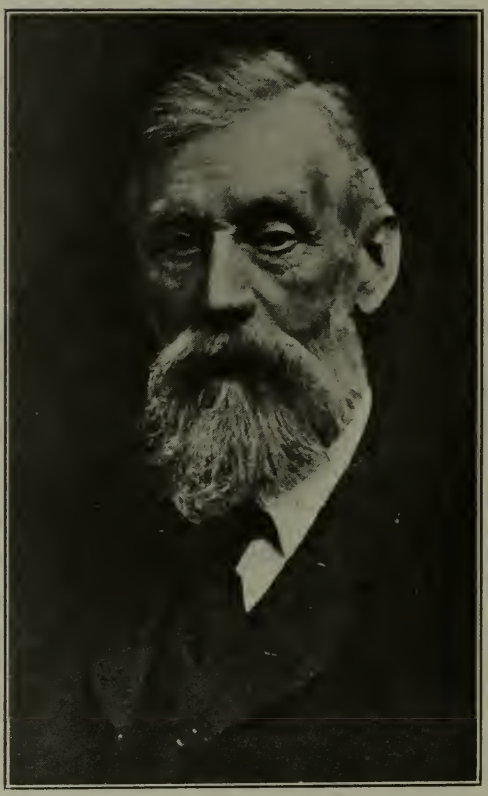
By Fielding H. Garrison, M.D.,
Washington, D. C.

Modern English physiology owes its origins to the inspiration derived from two great teachers, Sharpey and Huxley; its developments to the Cambridge and Oxford professors, Foster and Burdon-Sanderson. Through one of Foster's pupils, Henry Newell Martin, the Cambridge methods of teaching and research were carried over to the Johns Hopkins University, and through different Martin pupils to various parts of the United States. The Cambridge School originated in this wise.

In 1867, Dr. Michael Foster, a medical graduate of University College, London, accepted an invitation from Professor Sharpey to assist him in teaching physiology at that institution. Two years later he was appointed professor, at the same time succeeding Huxley as Fullerian professor of physiology at the Royal Institution. In 1870, on Huxley's recommendation, and, it is said, at the suggestion of George Henry Lewes and George Eliot, Foster was invited to become prælector of physiology at Trinity College, Cambridge, and, in 1883, he was naturally elected to the professorship which was then created. In 1874, Dr. Burdon-Sanderson had succeeded his master, Sharpey, as Jodrell professor of physiology at University College, and, in 1882, became Waynflete professor of physiology at Oxford. Thus, almost in the same year, the two great English universities acquired the two ablest teachers of physiology in the country as professors.

Sir Michael Foster, the son of an English surgeon, was born on March 8, 1836. "You may remember," says his pupil, Adami, "that the eastern counties of England, Norfolk, Suffolk, Essex, Cambridge and Huntingdon, were, in the seventeenth century, the main home of English non-conformity; that the Pilgrim fathers came from this region; that Oliver Cromwell himself was a Huntingdon man. It was at Huntingdon, that quiet little town on the sedgy Ouse, that Michael Foster was born." His parents being fervent non-conformists, of the Baptist persuasion, Foster was

[1]Read at the meeting of the Book and Journal Club of the Medical and Chirurgical Faculty of Maryland, Osler Hall, November 17, 1914.



SIR MICHAEL FOSTER, K.C.B., M.D., Lond., D.C.L., LL.D., D.Sc., F.R.S.

prevented by his religious opinions from entering Cambridge, but at London University, where he acquired his medical education, he was thrice a gold medalist. Like Darwin and Huxley, he served as a ship's surgeon in his youth, threatened pulmonary consumption having induced him to accompany the ship "Union" on a voyage to build a lighthouse on a rock in the Red Sea opposite Mt. Sinai. Upon his return, he practised medicine for six years with his father at Huntingdon (1861-7), after which he entered upon a life devoted to teaching and research. Elected F.R.S. in 1872, he succeeded Huxley as biological secretary of the Royal Society in 1881, holding this office until 1903. In 1900 he was elected to Parliament, representing the University of London as a Liberal Unionist until 1906, when he was defeated by twenty-four votes. On January 28, 1907, he died suddenly from pneumothorax, caused by the bursting of an esophageal ulcer, and was buried in the cemetery of his native town, Huntingdon.

Foster's master, William Sharpey, is known to us mainly by his discovery of the fibers of Sharpey, but, in his time, he was, in Foster's words, "the only pure physiologist in England * * * the only man of the time who devoted all his life to physiology." In those days physiology was taught in the English schools by practising physicians and surgeons, and even Sharpey, as Foster tells us, taught physiology "entirely by lectures."

"I remember very well that when he was lecturing on blood-pressure, and was describing to us the then new results of Ludwig, endeavoring to explain to us the blood-pressure curve, all he had to help him was his cylinder hat, which he put upon the lecture table before him and with his finger traced upon the hat the course of the curve. That was the way that physiology was taught by Sharpey in England in the year 1854. And yet Sharpey taught it as nobody else taught it. Nobody else in England then was teaching physiology as Sharpey taught it, and, as I tell you, he used his hat, and a very old hat it was, as a kymographion, for blood pressure."[2]

When Foster succeeded Dr. George Harley at London University in 1867, he had, he says, a small room and a few microscopes. He immediately began to make his pupils prepare their own tissues ("a new thing in histology") and put them through some simple experiments on muscle and nerve and other preparations. "That," he says, "was the beginning of the teaching of practical physiology in England, which has become what it is in the present year and the years that have elapsed between then and now."

In London, Foster came in contact with Huxley, who had begun to introduce the modern methods of teaching biology in Jermyn

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[2]Foster. Colorado M. J., Denver, 1900, vi, 420. The above, from a stenographic report, is not a good example of Foster's literary style, which is admirable, but of his spoken manner, which was then Parliamentary. A "good Parliamentary manner," of which there are innumerable examples in Hansard, consists in a curious balancing of repetitions and circumlocutions, the probable object being to give the speaker's audience time to assimilate the details of his subject. It was used with remarkable skill in the "stealthy approach" of Beaconsfield's final attack on Peel.

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Street, and who was afterwards assisted by Foster in preparing a course of elementary biology at South Kensington in 1870. As Professor W. T. Porter tells us, Foster got his professorship at the Royal Institution in the following way:

"According to Sir Michael's own story, he owed the appointment at the Royal Institution to a lady. At the close of one of Huxley's celebrated lectures on the brain, this lady expressed her appreciation of the masterly clearness with which Huxley had made the structure and function of the brain so plain to them. She herself was especially interested in the cerebellum, and would dear Professor Huxley tell her—she could not *quite* remember—whether the cerebellum was on the inside or the outside of the skull? Whereupon the despairing Huxley, long tried by the frequent combination of general information and special ignorance, wrote to Foster to take his place at once."[3]

When Foster went up to Cambridge as prælector of physiology in 1870, accompanied by his demonstrator, Newell Martin, he was assigned one small room for both lectures and laboratory work, the rest of the building being given to the Plumian professor of astronomy. Adami relates that Foster soon acquired other rooms by starting certain chemical investigations so obnoxious to the Plumian professor that he was glad to vacate the premises. During the first year of his incumbency, Foster in company with Sharpey, had made a tour of the German laboratories, and his first care, at Cambridge, was to introduce special classes in physiology, physiological chemistry, histology, biology and embryology, all new features of university teaching in those days. At this time the biological sciences were represented at Cambridge by Humphry, Babington and Newton, three professors of the old school whose lectures were mainly descriptive. Foster collaborated with Huxley in the teaching of elementary biology on evolutionary principles and of physiology as one of the biological sciences. His lectures came, says Gaskell, "as a revelation, and, in combination with the enthusiasm and sympathy of the man, caused many of the small band of his earliest students to decide there and then to take up a scientific career and follow him." Of his method of teaching Adami says:

"I can see him now, standing there before the blackboard, with no table before him, without a note, without a diagram save an occasional very elementary figure drawn without artistic pretense upon the board, and can almost hear again the deliberate yet forceful speech, emphasized from time to time by bringing the chalk in the right hand down into the palm of the left. His men were not to depend upon diagrams, but upon what they actually saw. And after the lecture we trooped for a two-hour period into the laboratory, where the teaching had, whenever possible, a direct bearing upon the subject of the lecture."

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[3]Porter. Boston M. & S. J., 1907, clvi, 510.

This is exactly the way in which physiology was taught in the biological laboratory of the Johns Hopkins University, from the time of Foster's pupil, Professor Martin. .

Although he was the inspirer of his pupils, Foster was more the great teacher, expositor and interpreter of physiology than the natural-born investigator. He had the imaginative mind, of philosophic cast, which can map out essential problems and their probable solution, but he had, Adami thinks, little interest in mechanism and technique, and perhaps no mechanical ability. Aside from this, his life, during his Cambridge period, became a never ending still beginning round of public activites. He was in constant request as a secretary of scientific societies, member of Royal Commissions and departmental committees, parliamentarian, after-dinner speaker, organizer of scientific societies and international congresses, mentor of all who contemplated undertaking research work in his field. It was an evil day for Cambridge, says Adami, when Foster went into Parliament, for it led to the ultimate resignation of his professorship and so took him away from his pupils and his work. In recognition of his public services, he was created K. C. B. in 1899. In 1875, the Physiological Society was founded by Foster and Burdon-Sanderson, with the warm support of Huxley. In 1881, at a breakfast party given to Foster, Goltz, Heidenhain and Kronecker by Professor Yeo, Kronecker proposed an International Congress of Physiologists, which became an accomplished fact, largely through Foster's activities. The first congress was held at Basel in 1889, Foster himself was president at the Cambridge meeting in 1898, and, in 1901, he was made honorary perpetual president at Turin, and received an inscribed tablet at the hands of Professor Mosso.[4]

Of Foster's original investigations in experimental physiology, perhaps the most interesting were his researches on the snail's heart in 1859, in which it was noted that any part of the heart, separated from the rest, will beat rythmically, with the conclusion that "the beat cannot be the result of any localized mechanism, but is probably the peculiar property of the general cardiac tissue," a hypothesis which, it need hardly be said, is the central feature of Gaskell's work on the heart. Later, Foster studied the effect of electric currents on the heart with Dew Smith, concluding that the ganglia play a subordinate part in the production of cardiac movements, that the nerve cells do not send out impulses causing contraction, and that the nerves do not convey such impulses from part to part, but merely serve to keep each part informed as to the state of the rest. Foster believed that each muscle cell of the heart has an obscure "sense" of the condition of the other parts, which reminds us of some of John Hunter's theories about the living tissues.

To facilitate his work in the Cambridge laboratories, Foster co-operated with Burdon-Sanderson, Lauder Brunton and Klein

[4]For a copy of the Latin inscription, with translation, see Zentralbl. f. Physiol., Leipz. u. Wien, 1914, xxvii, Ergnzngshft., 18-19.

in a "Text Book for the Physiological Laboratory" (1873), with his pupil Balfour in "Elements of Embryology" (1874), and with another pupil, J. N. Langley, in "A Course of Elementary Practical Physiology" (1876). He assisted Huxley in the later editions of his Physiology, and was joint editor of the collective edition of Huxley's Scientific Memoirs (1898-1902). In 1878 he founded the *Journal of Physiology*, the first English journal to be devoted exclusively to the subject, and remained its editor until 1894. This journal contained many American contributions, the names of Bowditch, Wood and Martin appearing on the title page as co-editors. In 1894 J. N. Langley became associate editor, succeeding Foster as editor-in-chief in 1907. Foster's great "Text Book of Physiology" (1876) passed through six editions and part of a seventh, was translated into German, Italian and Russian, and became widely known as the best critical treatise on the subject in English in its time. "In America," says Gaskell, "it was *the* text book," a statement which also held good for Huxley and Martin's "General Biology" and Foster and Balfour's "Embryology," in their day. Of Foster's "Physiology," Adami says:

"Written in admirable English, it showed the student that science is not the mere memorizing of facts, but is the process of constantly balancing those facts and from the deductions gaining principles. I have here Foster's own copy of his first edition. How puny and second-class it makes all previous manuals of physiology! It was no compilation of the contradictory data obtained by LeBlanc, of the University of Nesaisquoi, and Schwarz, of the University of Weissnicht, but a reasoned endeavor to select the grain from the chaff, an education in the scientific weighing of evidence, a thoughtful and philosophical treatise in pure and delightful English. It was a revelation of the way in which a text book as distinct from a 'cram book' should be written; it was, in short, an example of true scientific literature, with an occasional passage that delighted the reader as rising beyond scientific literature into the realm of great and memorable writing."

As a contributor to medical history Foster will always be remembered for his biography of Claude Bernard (1899) and his Lane Lectures on the History of Physiology, delivered at Cooper Medical College, San Francisco, in 1900. The memoir of Claude Bernard has the following modest dedication:

"To the physiologists of France, both to those who had the happiness to know Claude Bernard in the flesh, and to those who, like myself, never saw his face, this little sketch is dedicated in the hope that as he has been to me a father in our common science, so I may be allowed to look upon them as brethren. M. Foster."

This little book is the most sympathetic account of Bernard ever written. The close *rendement* of his scientific work is stated in the clearest, simplest, most intelligible language, and imbued with the true spirit of "historic thinking." The paragraphs describing Bernard's experiments and their tendency are usually copied or abstracted by those who have not either the time or

inclination to consult original reports to the Académie des Sciences. A work of the same kind is the History of Physiology in the sixteenth, seventeenth and eighteenth centuries, which is written with inspiration and enthusiasm from end to end, a genuine piece of literature, full of life and color, one of the most important of English contributions to medical history. With these two books may be grouped the inaugural historical addresses before the International Medical Congresses at London (1881) and Rome (1894) the Huxley lecture of 1896, which is the best survey in English of the tendencies of modern physiology, and the delightful "Reminiscences of a Physiologist," delivered before the students of the Denver College of Medicine in 1900. Foster excelled in public addresses. "As an after-dinner speaker," says Langley, "he was excellent, and, at his best, was in the very first rank. He spoke, as he lectured, very slowly, and without any freedom of gesture. A peculiar gleam of the eye announced the coming of a humorous allusion, and a jest was followed by an inimitable suppressed laugh, which was the delight of all his friends. On other occasions he was grave and earnest and, as Dr. Pye-Smith has said, 'Few public speakers knew better how to express sympathy or sorrow in dignified and graceful terms.'" His Royal Society obituary of Newell Martin will be remembered in this connection. Of his pupil Balfour, Foster left no less than three memorial notices, one for the Royal Society, one for Leslie Stephen's Dictionary of National Biography, and the affectionate tribute in the *British Medical Journal,* which, as Porter says, "was his gifted pupil's requiem in the sad days after the frightful hour at the *Aiguille Blanche de Peuteret.*" Few writers have better understood the true interest of medical history, the inspiration it affords for the physician's life work, as expressed by Allbutt: "We celebrate the memory of great men in the certain hope that in their children they will be born again."

FOSTER'S PUPILS.

Foster, who early saw that he would be pulled this way and that in all sorts of public activities, cheerfully gave up his research work in favor of his pupils and generously aimed to set them on their feet as independent investigators, creating special chairs for them where he could, and otherwise placing or launching them. In this he resembles Ludwig, but the scope of his teaching was wider than Ludwig's, covering all branches of general biology. Thus he made his pupil Liversidge, professor of chemistry; Milnes Marshall, professor of zoology, Balfour, professor of animal morphology, and Sidgwick, reader in animal morphology at Cambridge. In 1884, his pupil Ray was elected to the newly created chair of pathology. At Foster's instance, Sydney H. Vines and Sir Francis Darwin took up vegetable morphology. Vines founded the school of experimental botany at Cambridge, and, upon becoming professor of botany at Oxford, was succeeded by Darwin at Cambridge. Foster soon turned over embryology to Balfour and,

in 1882, Vines and Sidgwick relieved him of general biology, so that he could devote all his future time to his physiological pupils. Before enumerating these, let us consider the most important of the biological group, Francis Maitland BALFOUR (1851-82).

Born at Edinburgh, November 10, 1851, a younger brother of the well-known English statesman and a nephew of the Marquis of Salisbury, Balfour was fitted by his family connections for a political career, but decided to devote his life to natural science. Foster called him a born naturalist and Darwin predicted that he would be the leader of English biologists, a prediction which might have been verified but for his sad, tragic and early death, perhaps the greatest loss of this kind sustained by modern English science. Balfour was left handed, somewhat awkward in muscular exercises in early youth, but he overcame these handicaps so well that he was not only expert in laboratory manipulation, but became an enthusiastic Alpine climber. Attempting the ascension of a virgin peak on Tuesday, July 18, 1882, he fell over the precipitate height, with his guide, and the bodies of both were found lying dead, "high up in the mountains at the foot of a couloir," on the following Sunday.

Sitting in the little room of the philosophical library at Cambridge, Balfour once asked Foster to advise him as to his future career. Gnawing his moustache for a moment, Foster's eye fell upon an egg lying on a bench, which he cracked, showing the embryo inside, with the suggestion "What do you think of working at that?" This was the genesis of Balfour's great two-volume treatise on comparative embryology (1880-81), the most remarkable modern work on the subject. It is best described in Foster's own language:

"It is not only a masterly digest, in which the enormous number of observations made during the last quarter of a century, and especially during the last decennium, are marshalled in proper order, and their nature and significance clearly and accurately explained; it also contains, one might say in almost every page of the two thick volumes, the record of original, often laborious inquiries, to which the author was stimulated sometimes for the sake of verifying the statements of other observers, but more frequently for the purpose of solving morphological problems which presented themselves to him as the work went on. Some of the larger results, which thus sprang out of the work, elaborated as inquiries carried out by himself, or through him by his pupils, were published as separate papers; but even when these are accounted for, there still remains imbedded so to speak in the work, an enormous amount of original work, in the form both of new facts observed by himself and of luminous interpretations of the facts which others had recorded, but whose true meaning others had failed to see."[5]

After spending some time with Anton Dohrn at Naples, Balfour

[5]Proc. Roy. Soc. Lond., 1883, xxxv, pt. 2, p. xxiii, xxiv.

collaborated with Foster in the well-known student's text book of 1874. As an independent investigator, he solved the problem of the nature and origin of the uro-genital system of vertebrates (1874), and gave a complete account of the development of the elasmobranchs. He had been an ardent geologist from boyhood up, and in 1868 Huxley awarded him one of the prizes for an essay on the geology and natural history of East Lothian. Foster says he "knew his British birds" as few others did, and his unfinished monograph on Thysanoura would, if completed, have placed him in the first rank.

Foster describes Balfour as "the friend, whose gentle courtesy, sound judgment, unswerving faithfulness, warm affectionateness and bright intellect seemed to make life easier whenever he was present."

In the biological laboratory of the Johns Hopkins University there hangs a portrait of Balfour, which we raw students of 1888-90, who were just getting oriented to the novel experience of being thrown upon our own resources, would often linger to peer at, a strong Scottish countenance, grave, dark-eyed, serious, sincere, the face of one who would have been a natural leader in any field of human endeavor.

Foster's physiological pupils include the names of Gaskell, Langley, Sherrington, Henry Head, Newell Martin, Roy, Adami, Gowland Hopkins, Barcroft, H. K. Anderson, Dew-Smith and Sheridan Lea. The earliest of these was his first demonstrator at Cambridge, Henry Newell MARTIN (1848-96), a native of Newry, County Down, Ireland, who matriculated in medicine at the University of London at the age of sixteen. Foster, who was then teaching there, relates that there came to him a boy who said, "I am very sorry, sir; I should like to take your course if I could, but you see my parents are not very well off and I get my board and lodging with a doctor close by. I have, in return for my board, to dispense all the doctor's medicines, and that dispensing takes me always from 2 to 5; now your lectures begin at 4. I cannot come for the first hour. You go on to 6. May I come in for the second hour? I will work hard and will try to make up the lost time." This boy was Newell Martin, who afterwards did so well that he became assistant to Foster and Huxley at Cambridge, collaborating with the latter in his "Elementary Biology" (1875). In 1876 he became, upon Foster's recommendation, professor of biology at the Johns Hopkins University, holding this position until 1893. At the Johns Hopkins, Martin introduced the Cambridge methods of teaching biology and physiology, which were carried forward by his pupils, W. K. Brooks, W. H. Howell, W. T. Sedgwick, Henry Sewall, and many others. In original research his investigations were mainly devoted to the heart, notably his Croonian Lecture on the effect of temperature on the heart beat (1883), which won him his F.R.S. He was the first to show, in 1880, that the heart and lungs can be isolated or excluded from the body for investigation

purposes. With W. T. Sedgwick he settled experimentally the function of the internal intercostal muscles, and measured the coronary blood pressure and pulse wave directly by putting a canula in a coronary artery of a living dog, although Cohnheim had said that occlusion of this artery would be fatal.[6]

Martin was blond, small in stature, handsome in features, his nose of refined, delicate curve, his large eyes having the "dim blue stare" which the Irish novelist associates with the Celt. That blue stare, half dreamy, half pathetic, and minus the "twinkle," was expressive of much to some of us who dabbled in the elementary features of experimental physiology in our student days. It seemed to say: "Am I addressing a blockhead or a being endowed with normal reasoning powers?" At stated intervals of time, set examinations were held in the classrooms on the descriptions of animals in Huxley and Martin's Biology, which are written in a kind of scientific shorthand. The following week, the names of the class would be written on the blackboard by Professor Martin himself, in strict order of merit, according to the markings, "Good," "Fair," "Poor," "Bad." We whose names would have stood near the top, had these lists been placed in inverted order, would frequently visit Professor Martin's private room to discover, if possible, why our markings were so invariably poor, even though some had actually memorized these elliptical descriptions of living creatures verbatim, like a declamation. The grilling which we were put through on these occasions made it clear that the object of these examinations was to test the student's capacity for expressing scientific facts in an accurate and unmistakable manner. Martin not only taught his students physiology, but aimed to teach them how to write English.

Walter Holbrook GASKELL (1847-1914), perhaps Foster's greatest pupil, did the most important work on the physiology of the heart after Ludwig and laid the histologic foundations for the modern study of the autonomic nervous system. The son of an English barrister, he took his medical degree at London University, and was one of the earliest to come under Foster at Cambridge, at whose suggestion he entered Ludwig's laboratory in 1874, producing an important paper on the vaso-constrictor fibers of striated muscle. This was the beginning of his studies on the circulation which were to become so important in internal medicine. At this time the neurogenic theory of the heart's action, that its movements originate from nervous impulses, was in the ascendancy, and seemed borne out by the discovery of the ganglia of Remak and Bidder in the heart, by the Weber brothers' discovery that stimulation of the vagus will stop the heart, and by the experiments of Stannius, in which a ligature or cut at the sino-auricular junction stops the heart, while a second ligature at the auriculo-ventricular groove will cause the ventricle to beat again. Gaskell, by his "suspension method," showed that the

[6]H. Sewall. Johns Hopkins Hosp. Bull., Balt., 1911, xxii, 333.

motor impulses from the nerve ganglia are discrete non-continuous stimuli, influencing the heart's rhythm, but not originating its movements, which are the effect of a general peristaltic wave passing from sinus venosus to bulbus arteriosus, and from muscle cell to muscle cell. The experiments of Gaskell and Engelmann upon sectioned hearts and isolated strips of heart muscle, containing no nerve tissue, gave a clear picture of this rhythmic wave, which, Gaskell showed, is reversible. He introduced the term "heart block" and produced it experimentally, as also the two-, three- and four-time gallops of the clinics, interpreting these and the effects of the Stannius ligatures as simple cases of block. He also produced "fibrillation of the heart" experimentally, interpreting the condition as a system of blocks betwen the connections of individual muscle cells. Before Waller and Einthoven he investigated the electrical condition of the heart with a galvanometer, showing that these phenomena exist in a quiescent heart. The observation of Schmiedeberg, that stimulation of the vagus after exhibition of nicotine will hasten the heart (1871), was shown by Gaskell to be a simple case of nicotining the pre-ganglionic inhibitory fibers of the vagus, preventing these inhibitory impulses from getting across the synapse in Remak's ganglia, the post-ganglionic accelerator fibers, which originated from outlying ganglia, being unaffected by the poison. In confirmation of this, he showed that direct stimulation of the venous sinus "would still cause standstill, because, with the electrodes in that position, the post-ganglionic fibers from Remak's ganglia were stimulated." This ingenious application of Langley's nicotine method showed that the action of the vagus upon the heart is not inhibitory but quiescent, the nerve acting both as whip and bridle, and the whole nervous mechanism integrating and regulating the heart's action. In connection with this work, Gaskell made vast researches in the comparative histology and physiology of the sympathetic nervous system in different animals, which led to his great memoir of 1886, in which the distribution of the "autonomic systems" is mapped out in detail and the whole ground plan for later experimental research "laid down," as naval constructors have it. Gaskell's researches in this field were, as Langley says, "mainly histological," but this memoir is the anatomical basis of all recent work. In 1893 Gaskell showed that chloroform lowers the blood pressure by a direct action upon the heart, and not upon the vasomotor center. The rest of his life was devoted to his theory of the origins of the nervous system, the central canal of which he believed was, in the first instance, the lumen of a primitive gut.[7]

John Newport Langley, who succeeded Foster as professor of physiology at Cambridge, made important investigations on the cell changes in pancreatic secretion, on the liver fat, and on physiology of the salivary and gastric secretions, but his greatest work has been the definition and interpretation of the "autonomic

[7]For a fuller account of Gaskell's scientific work see the memorial notices by Prof. F. H. Pike and the writer in Science (December 4, 1914, pp. 802-807).

system." In 1869 (with W. Lee Dickinson),[8] he showed that upon painting a sympathetic nerve ganglion (Foster's synapse) with nicotine, the passage of nervous impulses across it will be blocked, and the fact that this drug acts selectively upon these ganglia and not upon those of the cerebro-spinal system, led to his view of the sympathetic and cranio-sacral system of spinal nerves as "autonomics" for the redistribution of all efferent impulses which do not terminate in striped or voluntary muscle. This work, and the important memoir of Langley and Anderson showing that reflexes from isolated sympathetic ganglia are not true reflexes, but rather actions along branching efferent nerves, suggests at once the interpretation of reflex arcs and the integrative function of the nervous system by Charles Scott SHERRINGTON, who was one of Foster's late pupils and succeeded the late Professor Gotch as Waynflete professor at Oxford in 1913. Sherrington's work on reciprocal innervation, reinforcement, antagonism and coordination in various reflexes brought out the point that simple reflex arc, functionating by itself, is a mere abstraction, most reflexes being so intricately compounded and interrelated that the nervous system functionates only as a whole, as set forth in his monograph on "The Integrative Action of the Nervous System" (1906).

Henry HEAD, editor of "Brain," carried forward and completed the work of Rosenthal and Hering upon respiration, showing that the action of the vagus upon the lungs is analogous and similar to its action upon the heart, quiescent and regulative. His work on the cutaneous distribution of pain referred from the viscera (Head's zones) is familiar, as also his studies on regeneration of sensory nerves, which were made by sectioning nerves in his own body.

Charles Smart ROY (1854-97), who came from Sharpey's native town, Arbroath, Scotland, graduated M.D. at Edinburgh in 1875, served as surgeon-major in the Turkish army during the Turko-Servian War, studied with Virchow, Du Bois Reymond, Goltz, Cohnheim at Leipzig, and finally with Foster at Cambridge, where he was appointed to the chair of pathology in 1884. He was a remarkable inventor of physiological instruments, of which his frog cardiometer, sphygmotonometer, renal oncometer, and cardio-myograph are known and used by physiologists and pathologists. He made important researches on the extensibility and elasticity of the blood vessel walls, on the renal circulation (with Cohnheim), discovered an automatic rhythmic tonus in the mammalian spleen, was one of the earliest to confirm Koch's discovery of the cholera bacillus, and devised a successful preventive inoculation against a cattle disease in the Argentine. His most important work is that on the mammalian heart, which was carried out with Adami in 1892. Roy was a tireless worker, who became prematurely gray and died from nervous breakdown, the effect of his incessant labors.

[8]Proc. Roy. Soc. Lond., 1889, xlvi, 423; 1890, xlvii, 379.

John George ADAMI (1862-), of Manchester, England, entered Cambridge in 1880, held the Natural Science Tripos in 1882 and 1884, was Darwin prizeman (1885), and took his M.D. in 1890. With Kanthack, William Hunter, *et al.*, he was one of those selected by Roy for the Lucas Walker studentships in pathology, and collaborated with him in the great memoir on the mammalian heart above mentioned. Settling in Montreal, he became the leading pathologist of Canada. His works on cancer, heredity, classification of tumors, etc., and his textbooks on pathology are widely known.

Frederick Gowland HOPKINS, prælector in biochemistry at Trinity College, is known by his method of estimating uric acid in the urine (1892), his analysis of tryptophan (1902), and by his work on gout and metabolism. His promised history of physiological chemistry will probably be the authoritative work on the subject.

Joseph BARCROFT (1872-), of Newry, Ireland, now senior demonstrator of physiology at Cambridge, has devoted himself to important investigations on the chemistry and metabolism of the blood, which are summed up in his recent monograph, "The Respiratory Function of the Blood" (Cambridge, 1914).

Of the other Foster pupils, Hugh Kerr ANDERSON (1865-), of Hampsted, England, collaborated with Langley in his memoir on reflex actions from sympathetic ganglia and other important researches. Arthur Sheridan LEA wrote an appendix to Foster's textbook entitled "The Chemical Basis of the Animal Body" (1892) and other memoirs in the *Journal of Physiology*. A. G. DEW-SMITH collaborated with Foster in investigating the effects of electric currents on the heart (1876-7), and made researches on double nerve stimulation (1873) and on an insoluble sugar-forming substance in penicillium (1873). He was a man of wealth, who financed the *Journal of Physiology* and established the Cambridge Scientific Instrument Company, which made the laboratory apparatus.

Such was the scientific work of the pupils of Sir Michael Foster, work second only in importance to that which came out of Ludwig's laboratory. As with Ludwig, Foster's name and fame may be said to live forward in the work of his pupils. Since the early eighties the achievement of the Cambridge laboratory has not been surpassed by any other recent work in physiology.

In private life, gardening was Foster's recreation, and he carried the experimental trend of his mind into the hybridization of irises and other plants, in which he was a forerunner of De Vries and Luther Burbank. Langley says:

"His garden was his chief relaxation. He loved masses of flowers and had large beds of cyclamen, anemones, daffodils, irises, and many others. His rock garden in early summer was a blaze of color. He was especially successful in growing varieties of Eremurus, and their noble spikes were a great feature of the garden. But he loved still more growing rare plants and experimenting

in hybridization. Most of all he loved irises, and many a traveler in distant lands enriched his collection. On these he became one of the first authorities and produced a number of new hybrids, with an account, on which he was busy to the last."

Foster's memory has been well preserved in the memorial notices by his pupils Gaskell, Langley, Adami, and, in this country, by the obituary of Professor William Townsend Porter.[9] Of the various likenesses of Foster, Porter says:

"The journals have published a photograph of Sir Michael as he might have looked on rising to address the Royal Society; a strong face, deeply lined, kindly and wise. Yet it is not the whole man. It is, so to say, official. The real man is shown in another photograph. Sir Michael in an old, old coat—the choice if not the fruit of wisdom—is seated on a bench against the rough board wall of a cabin in the Adirondacks. His hand grasps a mountain staff, the symbol of activity. But the good gray head leans comfortably back against the cabin, the historic pipe is in his mouth, and kindly wrinkles, the harvest of many well-spent years, surround his smiling eyes."

[9]Gaskell. Proc. Roy. Soc. Lond., 1908, S. B., lxxx, obit., pp. lxxi—lxxxi, port.
Langley. J. Physiol., Lond., 1906-7, xxxv, 233-246, port.
Adami. Publ. Med. Fac. Queen's Univ., Kingston, 1913, No. 7, 1-17.
Porter. Boston M. & S. J., 1907, clvi, 309-311.

PROGNOSIS IN CARCINOMA OF THE UTERUS.

By William Sisson Gardner, M.D.,

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The prognosis in carcinoma of the uterus depends upon the variety of the carcinoma, the progress that has been made when it is discovered and the treatment instituted.

We have as a rule depended for our prognosis almost entirely upon the degree of advancement and the treatment, and have said little about the variety of the carcinoma. Many of our statistics giving reports of cures of carcinoma of the uterus by some particular operation have almost invariably failed to state the variety of cancer operated upon, or the classification has been confined to a simple division into carcinoma of the cervix and carcinoma of the body of the uterus. While this simple division is of some assistance, it is very far short of what should be stated. This becomes clear when we remember that there are at least four distinct types of carcinoma of the cervix and certain modifications in the type of the adeno-carcinoma of the body of the uterus.

Covering the vaginal portion of the cervix and extending as far as the external os, we have the same variety of squamous epithelium that covers the vaginal mucous membrane. From this squamous epithelium we have three distinct varieties of carcinoma

developing; the first variety made up of cells from all the layers of the squamous epithelium, which for lack of a better name we will call squamous carcinoma; second, the basal cell epithelioma, which is developed from the lowest layer of the normal epithelium, and third, the scirrhus carcinoma, which is characterized by its slow growth and the increase of the connective tissue between the masses of penetrating epithelium.

Of these three varieties, the squamous carcinoma is the most malignant. It is the type commonly found in the younger women and extends very rapidly. In this variety the invading epithelium dips into the normal tissues in large masses. The epithelial cells are very irregular in size, shape and staining qualities. In the tissues of the cervix, just beyond the epithelial invasion, is a zone crowded with small round cells. This variety of carcinoma extends more rapidly than any of the others, getting out into the broad ligaments at a very early period of its growth. It has very little tendency to extend upward into the uterus. Even in the last stages it is very rarely seen to have penetrated the uterus farther than the internal os. This early extension into the broad ligaments and its rapid development makes the prognosis in this variety very grave.

In the basal cell variety the masses of penetrating epithelium are very much smaller in the earlier period of growth, and they are distinctly isolated from each other. It can be recognized by the unformity of epithelial cells both in size and distribution of chromatin, and by the usual absence of pearls and prickle cells. It has a tendency to grow upward into the uterus, and less tendency than the squamous cells variety to penetrate into the broad ligaments. It does not break down and begin to bleed quite so early as the squamous carcinoma. For this reason it sometimes makes great progress before there are any symptoms to call attention to its presence. When discovered early it is much more easy to remove it completely than the squamous cell variety.

In the scirrhus form there is a very slow invasion by the epithelial cells. The cells are very deficient in chromatin, and there is a great increase in the connective tissue, which apparently affords resistance to the invading epithelial cells. The result is that this form of malignant growth makes very slow progress and may extend over a long period of years before there is any great destruction of the tissue.

The mucous membrane of the cervical canal and the glands in it are lined by a high columnar epithelium which is present in a single layer. From this variety of epithelium we have developed adeno-carcinoma of the cervix. When examined microscopically we find a large number of new gland spaces. These new gland spaces are lined not by a single layer of epithelium as in the normal glands, but by an irregular number of layers of epithelium. This increased proliferation of epithelium has the tendency to ultimately fill all the gland spaces. The nuclei of the glands are irregular in shape and the staining is very irregular. The newly-

formed cells stain the more deeply. Adeno-carcinoma of the cervix has little tendency to break down early, consequently it causes very little hemorrhage until late in the disease, and there is nothing to call attention to it in its early stages. Early adeno-carcinoma of the cervix is discovered by accident, if discovered at all. The reasons for the grave prognosis in adeno-carcinoma of the cervix is because it is usually not discovered until it has already penetrated the other structures in the pelvis outside of the cervix. If we had any means of detecting it early there is every reason to believe it could be dealt with as successfully as adeno-carcinoma of the body of the uterus.

The surface of the endometrium of the body of the uterus and the glands in it are lined by a low columnar epithelium which is present in a single layer. From this variety of epithelium develops the adeno-carcinoma of the body of the uterus. The growth starts usually by a variety of finger-like projections on the endometrium. On microscopic examination it is observed that the endometrium is greatly increased in thickness and has developed in it a large number of atypical glands. The epithelium lining the glands is modified in character and the number of cells tremendously increased. This increase in the number of cells causes them to pile up within the glands. The proliferation of epithelial cells is so irregular that no two of the glands present the same general appearance. In the later stages the cell proliferation may be increased to such an extent that the appearance of the gland structure is almost lost.

Adeno-carcinoma of the body of the uterus begins to bleed very early; and if scrapings are examined microscopically is very easily recognized. As it starts much farther from the base of the broad ligament than carcinoma of the cervix, lateral metastises from it come much later.

If all patients who bleed were curetted promptly and the scrapings properly examined, we would rarely have a death from carcinoma of the body of the uterus.

When a carcinoma of the squamous cell variety is discovered the prognosis is always grave without reference to the progress that has apparently been made. By the time any symptoms are produced, in almost every case, there is an invasion of the broad ligaments. In later cases, where there is sufficient extension for the uterus to become fixed in its position, there is practically no hope of recovery.

Many of the basal cell variety offer a more favorable prognosis. In the untreated cases the progress is slower than that of the first mentioned type.

The scirrhus carcinoma develops still more slowly, consequently it runs a very much longer course. It apparently does not metastasise very early, and so offers a better opportunity for complete removal.

We have very few recoveries from adeno-carcinoma of the cervix, because as a rule it is not discovered until it has invaded

the structures far beyond the cervix. Any carcinoma of the cervix that is causing pain has as a rule progressed beyond the point where there is any probability of it being permanently cured.

The prognosis in adeno-carcinoma of the body of the uterus is more favorable than any other variety of uterine carcinoma. This is due to the fact that there is little opportunity for this variety of carcinoma to extend directly to the other structures, and so long as any carcinoma is confined to the uterus it is comparatively easy to remove it.

Only about 13 per cent. of carcinomas of the uterus, including all varieties, metastasise by way of the lymphatics. When the lymphatics are once invaded, there is very little hope of eradicating the carcinoma. Even after the abdomen is opened it is impossible to distinguish all the carcinomatous glands from the ones that are not affected. It occurs very frequently that enlarged glands are removed, which by microscopic examination are found to contain no malignant elements; while in the same pelvis there may be other glands which are not materially enlarged, but which are undergoing malignant changes. It has been found impracticable to remove all the lymphatic glands into which the uterine lymphatics lead, and when all of them cannot be removed it is useless to remove any.

When we come to the relation of operative procedure to prognosis, we still hark back to the pathology. We should stop speaking of the recurrence of carcinoma. A carcinoma that is completely removed does not recur. A carcinoma that is incompletely removed continues to grow, and what is ordinarily meant by recurrence after operation is simply that a portion of the carcinoma was never removed and has continued to develop. That operation will be the most successful that takes out the affected uterus with the widest area of the adjacent tissues.

The manner of removing the carcinoma is largely a matter of personal choice. Not one has obtained any better results than Dr. John Byrne, who did a high amputation of the cervix and resected the broad ligaments with an electric cautery. Some operators have gotten very satisfactory results by vaginal hysterectomy, using clamps and subsequently cauterizing the clamped portion of the broad ligaments. By this means a very extensive destruction of the broad ligaments can be obtained. One great advantage of this operation is that the immediate mortality is very small.

Of three hundred and forty-five cases of vaginal hysterectomy for cancer reported by Ott, there was a mortality of 1.7 per cent. Of the two hundred and forty-six patients whose fate is known after five years, 34.1 per cent. seem to be permanently cured. There is thus seventeen permanent cures to one fatality. He tabulates along with his figures—Wertheim's published statistics of five hundred abdominal cases; the immediate mortality was 19.4 per cent. Of the one hundred and eighty patients whose fate is known after five years, 57.6 per cent. seem to be permanently

cured. The proportion of cures to one fatality is, however, only as 1.7 to 1.

Ott sums up his comparison of the end results with the two methods in the statement: "With the abdominal technic one gets one-and-a-half times more chances of permanent recovery after five years, but one runs eleven times more danger of dying during or after the operation."

It should be remembered that Ott's mortality rate from vaginal hysterectomy of less than 2 per cent. is below the average. But the ordinary mortality of vaginal hysterectomy should not be more than about 4 per cent. On the other hand, Wertheim's mortality of a little over 19 per cent. is far below the general mortality for the extensive abdominal operation. A mortality twice as great would be nearer the correct figure for collected statistics. Both Ott's and Wertheim's statistics would be very much more valuable to us if we knew what they had been operating for. In comparing the two methods of operation we are obliged to presume that the different varieties of carcinoma occurred in the two clinics in about the same relative proportion.

In conclusion, then, in stating the prognosis in any particular case of carcinoma of the uterus, we must consider, first, the type of carcinoma present; second, the progress that has been made when the patient comes for treatment, and last, the method adopted for the removal of the growth.

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WHAT SHALL WE DO FOR THE CONVALESCENT MORPHINE ADDICT?

By C. B. Pearson, M.D.,
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If all morphine addicts were as much alike as peas in a pod, it would be an easy matter to find an answer. The solution of this problem is important to those of us who are specialists in the field. For, however well we may do our work in withdrawing the drug and putting the patient in a condition where he can exist without morphine, we must at least turn out a decent percentage of cases that never relapse if we expect the family doctor to turn his cases over to us. Some institutions advertise that they turn over their cases at once to the family doctor. This is no doubt shrewd business judgment. But it is not a wise solution of the problem. It is shirking the whole matter. Because the family doctor is not likely to understand the dangers that are peculiar to convalescence from morphinism. However, I am always glad to have the family doctor assist the patient to carry out those measures that I deem to be for the best. A doctor writing upon morphinism recently said that the best thing to induce sleep in these cases was muscular fatigue. I know of nothing more likely to produce insomnia. Muscular

fatigue following even slight exertion during the first few days off the drug produces an intolerable aching of the whole body, and especially the back and legs. Muscular fatigue, or any sort of fatigue, for that matter, is the most prolific cause of relapse that there is. After the craving for morphine has once been overcome it cannot be re-established except by a return to the use of the drug. Fatigue will bring on a feeling of the need for some sort of stimulation, but not the old familiar craving for morphine. The convalescent knows of but three stimulants—opium, cocaine and alcohol. The first means immediate relapse, the other two relapse in the near future. One would naturally think of pain as being a frequent cause of relapse. It is not. Pain puts the patient sharply upon his guard. He is accordingly prepared to put up a fight to save himself. There is, of course, danger of relapse from pain. But it is not its intensity so much as its protracted duration that needs to be feared. Pain long continued will exhaust the nervous powers of resistance that nature has been trying to build up since the last dose. Here again fatigue appears. Before the powers of resistance become exhausted the dentist or surgeon should be called in, if operative procedure is indicated. We have been accustomed always to look to opium in some form for relief of pain. In my work I make use of a combination of hyoscine, physostigmine and pilocarpine. The first two in a solution together of such a strength that 20 m. will contain gr. 1/200 hyoscine and gr. 1/100 physostigmine. The pilocarpine in a solution of 1 gr. to the drachm. The first two drugs rarely need to be crowded to the maximum dose as given by the books. The last must be given in at least double the book dose in order to be effective. Hyoscine alone causes a troubled delirium and a feeling of the most intense wretchedness. Physostigmine corrects the bad effect upon the eye, and in this way lessens the hallucinations produced by the hyoscine alone. Its lessening of reflex irritability increases the hypnotic effect of hyoscine. Therapeutic doses also sustain the heart's action. The pilocarpine stops the tossing about, the delirium, and the feeling of wretchedness and promptly produces a quiet sleep. Double doses of this drug are needed. Double doses of pilocarpine alone would be likely to cause alarming symptoms. Given in this combination they do not. Very little or no diaphoresis is produced.

I have been able to arrest the most severe pain with this combination, and it also produces sleep very promptly, while morphine does not. It does not cause nausea or interfere with the appetite. Overwork during the first few weeks is likely to bring on a condition of nervous collapse. Stimulants of any sort should not be given in this case. Hot baths, gentle massage and absolute rest in bed will soon set the patient right again. In the latter part of the convalescence overwork may bring on a condition of nervous irritability, insomnia, loss of appetite, etc., that is especially discouraging to the patient and very likely to cause a relapse. This is likely to be the case if the convalescent has not been forewarned

of this danger. This condition may come on as late as a year or 18 months after the last dose. If its true nature is recognized, i. e., that it is exhaustion of nerve forces that have not been completely restored, it can easily be overcome. No drugs of any kind should be used. Complete rest should be insisted upon. This matter of overwork should always be borne in mind, because it is the most frequent cause of relapse that we have. Next to it comes the abuse of alcohol. It disturbs the stomach, interferes with nutrition, produces nervous irritability, insomnia, and, in short, rapidly breaks down the nervous powers of resistance that nature has been trying to build up since the last dose of morphine.

The same is true to a lesser degree with sexual excess. Very many relapses are brought about in this way. Morphine causes a deterioration of the moral sense in some cases. Morphinism, especially advanced morphinism, causes a total cessation of the sexual appetite. There are but few exceptions to this statement. On the other hand, during the first few weeks of the convalescence the sexual organs in either sex are in a very excitable condition. Where the sexual powers have laid dormant for from five to twenty years we need not be surprised, because the convalescent of either sex feels impelled to experiment with the newly restored sexual powers. Sexual indulgence of itself is not likely to be harmful where it is not followed by exhaustion. If the latter is the case, the convalescent should be very abstemious. If sexual indulgence means late suppers of indigestible material and alcoholic stimulants, it is almost certain to mean a relapse. A life of this sort will soon lead to a condition of nervous irritability and insomnia such as I have already described. In short, the addict should refrain from all those things that tend to weaken the nervous powers of resistance. The contrary is also true—everything except drugs that can assist the convalescent to regain his nervous and mental balance should be resorted to. The psychological effect of complete independence of drugs for support is of great benefit to these patients. This, of course, does not apply to really grave intercurrent disease. Outdoor life, sleeping in the open air, plenty of plain, nutritious food, moderate work or exercise that can be discontinued at the first signs of fatigue, regular hours—all these are matters of great importance. How long a time is needed for complete convalescence? I should say from six to eighteen months. If the convalescent behaves, at the end of eight weeks or thereabouts he will be the very picture of health. There may be a gain of as much as 40 pounds. If the convalescent is in middle life he will look from ten to twenty years younger. Now, if we may look for all these happy results as early as eight weeks after the last dose, why do I say six to eighteen months are needed for complete convalescence? I say so because it is the truth. Everything seems so delightful at the end of eight weeks that the family doctor, the convalescent's friends and the convalescent himself will begin to think that I am just a crank about convalescence, and that my advice may be safely

ignored. After the convalescent has broken down his nervous powers of resistance by indiscretion in work or dissipation and has relapsed, the convalescent will be apt to perceive too late that my advice was sound. Not so the family doctor and friends; they will either say that the convalescent willfully returned to the drug or lay it all to morphinism, i. e., say that morphine so weakens the will that a permanent cure is impossible. All nonsense; every bit of it! Every patient of mine who left my place a year or more ago free from morphine, and who since that time has followed my advice faithfully, is still free from morphine. I have a goodly number of such cases to my credit. I am very sorry to say that honesty compels me to admit that very many who left me free from morphine have since relapsed. I have never been able to trace a willful return to morphine, but I have been able to trace in nearly every case either willful or thoughtless indiscretion in work, alcoholic or sexual indulgence to such an extent that the will is overwhelmed. It is a matter of but little importance to the convalescent whether he has a weak or strong will, if he proposes to have his fill of alcoholic and sexual excess, for in this case the possession of a will equal to that of Bismarck's would prove to be of no avail. On the other hand, if the convalescent has the common sense to put his conduct and environment in harmony with the principles laid down in this article, no strain will be put upon his will, and even a weak will will be found sufficient. Domestic trouble is a great discouragement to the convalescent. It is a great thing for a morphine addict to free himself from the clutches of this vile drug. Great things are rarely accomplished without sacrifice. There is nothing inherent in morphinism that prevents a complete recovery. There is, however, something wrong with very many of the people in the country—a great many of us are unwilling to make any sacrifice of our present inclinations for the sake of our future good. The morphine addicts are very much like people in general. Some are wise and some are foolish. I can usually form a pretty correct estimate of a patient's prospects of permanent recovery while he is still with me. In every case where the patient not only listens to me eagerly while I am giving my opinions as to the best course to be pursued during convalescence, but asks me all sorts of questions about convalescence, that patient has since made good. Nevertheless, I never cease trying to teach the unpromising patient the way he should go. For I conceive this to be my duty.

The reader, of course, knows that the normal person can work until he seems to be all worn out, and then under the influence of a strong will, or some extraordinary call for extra work, like a fire or some great danger, that he can pull himself together and overcome this fatigue without stopping to rest, and work on hour after hour. The man on the street calls this his second wind. The convalescent has no second wind, and very little first wind either, for that matter. And it is fully six to eighteen months before he can

endure dissipation or severe and prolonged physical or mental strain without bringing on grave nervous disturbances.

Morphinism does not mean insanity. But morphinism is always accompanied by mental symptoms, and these do not at once disappear with the last dose by any means.

I once knew an alcoholic who had been a total abstainer for three years when I first met him and continued such for two years longer. I never conversed with him that he did not mention some subject connected with alcoholism every few moments. I made up my mind that, although an abstainer, he was still an alcoholic mentally. Familiar faces, familiar scenes, familiar tasks many times performed bring back old trains of thought. For this reason a new environment and some light occupation never before pursued are very desirable during convalescence. Just what occupation and just what environment to select for each case calls for close study of the patient's temperament and circumstances.

In all cases the simple life is the proper thing for the convalescent. I will say for the encouragement of the addict that he will find, if he behaves himself, that the time he must spend for a full restoration of his health to be the happiest that he has known for many a long day.

Book Reviews.

Nervous and Mental Diseases. By Archibald Church, M.D., Professor of Nervous and Mental Diseases in the Northwestern University Medical School, Chicago; Late Professor of Neurology in the Chicago Polyclinic; Neurologist to St. Luke's, Wesley and Mercy Hospitals; Consulting Neurologist for the Michael Reese Hospital, etc. And Frederick Peterson, M.D., ex-President of the New York State Commission in Lunacy; Formerly Professor of Psychiatry, Columbia University; Consulting Alienist, Bellevue Hospital; Manager of the Craig Colony for Epileptics at Sonyea, New York; ex-President of the New York Neurological Society. With 350 illustrations. Eighth Edition, Thoroughly Revised. Philadelphia and London: W. B. Saunders Company. Baltimore: The Medical Standard Book Co. 1914. Cloth, $6.50 net.

The present edition of the above-mentioned book should be as popular with students and general practitioners as any of its predecessors. It is written in the same pleasing style and along the same general plan as former editions, the arrangement of the book having been practically untouched, the new material being inserted as interpolations. Since the last edition there have been many additions to our knowledge of mental and psychical disorders. Those which have proven of practical value have been thoroughly touched upon. Amongst the new material are sections on the glands of internal secretion and their relation to nervous affections, an im-

mense amount of material on syphilis of the nervous system, including special reference to the latest investigations of the spinal fluid and the relation of the spinal fluid changes to the various organic diseases of the brain and spinal chord. These, with many other alterations, again brings the book up to date, so that it should prove as serviceable as heretofore.

A Text-Book of Diseases of the Nose and Throat. By D. Braden Kyle, A.M., M.D., Professor of Laryngology and Rhinology, Jefferson Medical College; Consulting Laryngologist, Rhinologist, and Otologist, St. Agnes' Hospital; Fellow of The American Laryngological Association, etc. With 272 illustrations, 27 of them in colors. Fifth Edition, Thoroughly Revised and Enlarged. Philadelphia and London: W. B. Saunders Company. Baltimore: The Medical Standard Book Company. Cloth, $4.50 net. 1915.

It is unnecessary to inform the profession that Kyle's latest effort is good, for from previous experience they know it could not be otherwise. In the present instance we find a much enlarged and more finished product. Still, as in former editions, one is not worried with wading through a mass of unnecessary detail before he comes to the meat of the subject. As heretofore, the subjects included are very satisfactorily covered. Besides much new material has been included, viz.: Vaccine therapy, lactic bacteriotherapy in atrophic rhinitis, salvarsan in the treatment of syphilis of the upper respiratory tract, negative air-pressure in accessory sinus disease, congenital insufficiency of the palate, etc., etc., and a number of other sections have been entirely rewritten, thus bringing the symptomatology, etiology and treatment up to date. As a working book the general practitioner will find the present volume more satisfactory than ever.

The Clinics of John B. Murphy, M.D., at Mercy Hospital, Chicago. February, 1915. Volume IV, Number 1. Philadelphia and London: W. B. Saunders Company. Baltimore: The Medical Standard Book Co. Published Bi-Monthly. Paper, $8 per year.

This issue contains talks on gangrenous appendicitis, lacerated wound of thumb, mixed round and spindle cell periosteal sarcoma of the right femur, aneurysm of the brachial artery with endoaneurysmorrhaphy, division of the brachial plexus at the level of the first rib, etc. Vascular surgery is attracting much attention at present, therefore the report on the case of the brachial aneurysm, especially the operation and post-operative course, should prove very acceptable to the readers of The Clinics. The remaining articles cover a number of subjects, all of which are interesting to the practical surgeon.

MARYLAND MEDICAL JOURNAL

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BALTIMORE, MAY, 1915

"IN DUE SEASON WE SHALL REAP, IF WE FAINT NOT."

FOR more than thirty years, over a quarter of a century, the Maryland General Hospital has been alleviating human ills, both bodily and mental. Far the larger part of those treated have been free patients. During all this time those in control of the institution have made no direct appeal to the public for funds with which to carry on this noble work, but have, by strict economy and a gift from a friend here and there, managed to meet its obligations. The time has come, however, in which it finds itself cramped financially, and if it is to continue the good work the public must come to its aid. It does not go before the public as a supplicant, but as an institution asking only what is its due. It has been serving the public well and faithfully during these many years, and now the public should be willing on their part to make a small return for this service. The Board of Managers, feeling that the public does appreciate the labor expended on the charity patients of the section of the city which the Maryland General Hospital serves, has therefore decided to institute a campaign with the ultimate object of raising $200,000, so that in the future the hospital can better serve its clientele. Surely, this is a modest amount when one takes into consideration the amount of good done by the institution. A crisis is staring the hospital in the face. It must have help, or it must curtail its work. Baltimore cannot afford to forsake such an honorable institution now that it is in stress. Such a catastrophe would be a crying shame upon the

charitableness and appreciativeness of its citizens. Think of it, a hospital now more than thirty years old appealing in vain for help! Such is not and cannot be the case. Certainly there are enough public-spirited citizens in our midst to guarantee the success of the campaign now under way. These will see to it that a hospital with 70 per cent. free beds, and an out-patient department of 20,000 cases yearly, shall not be hampered for a paltry $200,000. They will see to it that an institution which has maintained an out-patient obstetrical clinic of many hundred obstetrical cases in the homes of the very poor in the northwestern section of Baltimore; that has maintained a lying-in department, in which three hundred needy women are delivered yearly, and a hospital with a daily census of 150 cases, a nursing staff of 55, and a resident staff of 8, shall not appeal in vain to the generosity of Baltimore's citizens. The appeal is being made for the purpose of raising money to pay off a floating debt, to build additional free wards, to build more private rooms and private wards, to build a laundry and electric-lighting plant, and last, but not least, to build a nurses' home. To carry out the above program money must be had. Either help must be received from the public or a great charitable work in a portion of the city in which there is a large population needing free medical treatment must be seriously crippled. Below is a summary of the year's work of the hospital:

Cases in the hospital, 2300.
Emergency and accident cases, 2051.
Surgical operations, 1121.
Dispensary cases, 15,768.
Obstetrical, 316.

Yearly the demands upon the capacity of the hospital are becoming greater. In order to provide properly for this the plant must be enlarged, otherwise the work of the hospital will be greatly hampered.

The task before those engineering the campaign is colossal, but they have gone at it with the determination of winning. They are imbued with the spirit, "In due season we shall reap, if we faint not." They do not intend to falter, but you, our readers, can make their task easier by sending in a contribution or by influencing a friend philanthropically inclined.

Medical Items.

Dr. William H. Morriss, Jr., Johns Hopkins Medical School, '12, surgeon in charge of the Hospital for Women of Maryland, Lafayette avenue and John street, sailed from New York Saturday, April 17, for La Panne, Belgium, where he will become a member of a war hospital staff.

Dr. Morriss, who is a son of William H. Morriss, secretary of the Young Men's Christian Association, volunteered some time ago for service in a medical corps at Europe's battle front, as a member of the contingent sent abroad by the American Red Cross. About three weeks ago he received his commission from Washington, and was told to get ready to sail the middle of April.

Two units of American medical men sailed with him, the party consisting of six. He was the only representative of Baltimore. The hospital in the staff of which they will enroll is an established Belgian institution that just now is taking care of soldiers sent to La Panne from the front.

Dr. Clapham P. King, a Maryland surgeon who is with the Red Cross forces in Serbia, is convalescing after an attack of typhus.

While returning to his home in East Baltimore on the night of March 26, Dr. Fred Caruthers was held up and robbed by a negro.

On March 23 Surgeon-General Gorgas came to Baltimore by invitation of Mayor Preston to confer with the city officials regarding the abolition of the pest mosquitoes. General Gorgas expressed the opinion that it is impossible to destroy the mosquito absolutely, and that it is almost wholly a matter of drainage, thereby removing the breeding places of the mosquito.

On March 18 Dr. Jacob H. Hartman, one of the founders of the Baltimore Eye, Ear and Throat Hospital, was given a banquet, at which a handsome sliver service was presented to him on behalf of the staff of the hospital.

Dr. and Mrs. Joseph C. Bloodgood of 904 N. Charles street are building a handsome residence at the end of Midvale road, Roland Park, which they expect to occupy in the autumn.

Dr. Frank J. Goodnow, president of Johns Hopkins University, is in receipt of a cablegram from Sir William Osler, dated Oxford, England, in which he says that physicians, nurses and money are urgently needed for Serbia; that conditions are lamentable, and typhus is raging.

On April 12 the Maryland General Hospital launched a campaign to raise $200,000 for the building of new wards and private rooms; also for remodeling the institution. The campaign is State-wide, and is being conducted by the Methodist churches and Epworth League organizations of the State.

Drs. Veander N. Leonard and Henry N. Shaw, both of Baltimore, who have been on duty for six months in British base hospitals, have returned to Baltimore.

Dr. Winton M. Nihiser of Hagerstown, while attending a family suffering from the effects of carbon monoxid gas, was partially overcome by the gas.

Drs. William H. Welch and Howard A. Kelly, both of Baltimore, have agreed to serve on the special emergency committee to devise plans to combat the epidemic of typhus fever in Serbia.

A campaign to annihilate the fly has recently been inaugurated in Baltimore by Dr. Nathan R. Gorter, Health Commissioner. He will make an aggressive fly campaign, backed up by a city ordinance regulating stables and with the co-operation of the householders.

Arrangements are being made by the officials of Spring Grove State Hospital, Catonsville, Dr. J. Percy Wade, superintendent, for the transfer shortly of a large number of patients to the new Eastern Shore State Hospital at Cambridge. The patients will be taken to Baltimore, where they will board one of the city iceboats loaned for the occasion and taken to Cambridge.

The vacancies at Spring Grove will be filled with patients from Bayview Hospital, which has become overcrowded.

The medical officers of the Maryland National Guard and the Baltimore members of the Army Medical Reserve Corps have been invited to participate in a medical camp of instruction to be held in Pennsylvania next summer.

Between 30 and 40 prominent physicians and surgeons of Baltimore are members of the Medical Reserve Corps, and it is thought that many of them will go to the camp for at least a week or 10 days. They have been invited by Surgeon-General W. C. Gorgas of the United States Army.

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AN IMPROVED METHOD FOR THE RAPID ESTIMATION OF SUGAR.*

By Harvey G. Beck, M.D.,
Baltimore, Md.

THE internist in his routine of studying cases is frequently confronted with the problem of curtailing time-consuming methods. In fact, personal experience has led me to the conclusion that no laboratory tests are practical for the busy clinician if they require an average of more than ten minutes. This applies with special force to the study of diabetic subjects where daily examinations of the urine for sugar, acetone, diacetic acid, etc., are required. To treat this disease intelligently and scientifically, routine examinations are essential. Moreover, it is the best means of gaining the support and co-operation of the patient, which are so necessary if one hopes to meet with any degree of success in the treatment of this disease. Patients, as a rule, are willing to carry out a diet with judicious care if they are kept informed of the results of such treatment as expressed in the percentage or quantity of sugar eliminated per diem. In recognition of this fact I devised a method for the rapid estimation of sugar in urine some years ago. The method was described in an article published in the *Medical News,* September 3, 1904. After considerable experience with this method I found that certain modifications enhanced its value and increased its simplicity and rapidity without impairing its accuracy. Simple apparatus suffices to make the test, namely: a small evaporating dish (d), a larger evaporating dish for water bath (w), a Bunsen burner (b), a glass rod or spatula (s) and a one cubic centimeter pipette graduated into 1/100 c.c., connected with a Koch's safety capillary pipette filler (p). The application of the test is made by floating the small evaporating dish containing 2 c.c. Fehlings solution in the larger dish containing water heated to boiling temperature. The urine is discharged from the capillary pipette, which is filled to "o" by gently sliding the thumb cap on the

*Demonstrated at a meeting of the Research Club of the College of Physicians and Surgeons, February, 1915.

NOTE.—I am indebted to Dr. A. H. Sanford of the Mayo Clinic, who first called my attention to the use of Koch's safety capillary filler, and to B. T. Baggott for making the sketch illustrating the apparatus.

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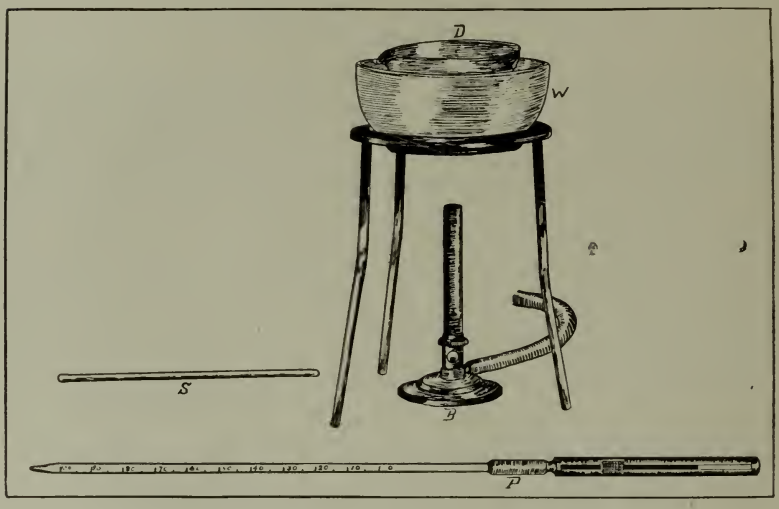
pipette filler while stirring the solution with a glass rod until the blue color disappears. After ascertaining the amount of urine discharged from the pipette, compute the percentage by dividing the number of hundredths cubic centimeters used into 100. The test is facilitated by diluting the Fehlings solution with 5 to 10 c.c. of boiling water taken from the water bath with a pipette. With hot running water in a laboratory the estimation of sugar can be made in five minutes. This has a great advantage in economizing time over the orignal titration method, in which a burette is used, and furthermore obviates the objectionable features which militate against accurate determinations. One of these features in the original Fehlings titration test, where direct heat is used, is the burning of sugar into caramel on the evaporating dish. This im-



parts a dark color to the contents, which decidedly interferes with the end color reaction. Another feature eliminated when using a water bath is the reduction of Fehlings solution by such substances as uric acid, kreatin, kreatinin, neucleoalbumen, etc., present in the urine. These do not materially interfere when the reaction takes place below the boiling temperature. The polaroscopic method, although rapid, is not infallible, owing to the fact that in advanced cases of diabetes B-oxybutyric acid, a levorotatory substance, frequently appears in the urine, sometimes in larger amounts than sugar itself. Levulose, which may appear even in mild cases, has the same effect. With the fermentation test it is impossible to ascertain the results in time to be of any value to the patient, and therefore it must be regarded as impractical. The only advantages claimed for the new method described are speed, simplicity and accuracy, features which commend any laboratory method for general use in clinical work.

DISPENSARY ABUSE.*

By M. M. Savage, M.D.,
Baltimore, Md.

One of the purposes of this society is to guard and foster the material interests of its members and to protect them against imposition; also the raising of the professional standard of its members.

I believe that this society is doing its full duty as far as the promotion of the scientific advancement of its members is concerned, for almost all of our meetings, even if poorly attended, are taken up with the reading of papers, discussions, etc. It is also doing its full duty, it seems to me, toward the community, if we take into consideration the activities of the committees on public instruction, the anti-noise committee, committee on social hygiene, pure milk committee, committee on midwifery law, etc. In one direction only, I think, and my opinion is shared by a number of my colleagues, it does not do its full duty, and that is in the direction of promoting our own welfare and improving the business side of our profession. I said a moment ago that our scientific meetings are poorly attended. What is the cause? Not so much that the average medical man is apathetic as due to the fact that the medical practitioner cannot afford to leave the office for fear of losing calls or missing office consultations. A statement has been made not long ago that the fee of about 90 per cent. of Philadelphia's physicians is 50 cents. The main cause of this scant remuneration, it is claimed, are dispensaries. I venture to say that the same conditions also exist in Baltimore. I do not wish to take up much of your time in relating numerous incidents of "dispensary abuse," but will recite a few from my own experience.

1. A physician, a prominent member of this society, advised a patient to consult me about a nasal obstruction, but instead he went to the Presbyterian Eye and Ear, and treatment was given there. This man can well afford to pay a fee, for he has a large shoe store in East Baltimore, and he seems to do a good business.

2. A couple of weeks ago I was consulted about a two-year-old child for a suppurating ear. The little patient also developed an abscess of the submaxillary glands, requiring an incision. The mother sent for me, as I have been the family physician for many years. She told me that the child was treated several times at the Presbyterian Eye and Ear Dispensary. Moreover, they told her that the child had large tonsils and invited her to bring it for a tonsillectomy as soon as the little patient recovered from the running ear. The father of the child has a shoe and cigar store in East Baltimore, and owns the properties on which the stores are located. At a meeting of the Ophthalmological Society which was held shortly afterward I asked one of the physicians if they were in the habit of inquiring as to the financial standing of applicants for treatment. He told me, "we don't bother about it." Now, Mr.

*Read at the Annual Meeting of the Medical and Chirurgical Faculty of Maryland, April 29, 1915.

Chairman and gentlemen, somebody has to bother about it, and it is the duty of the Baltimore City Medical Society to bother about it.

3. The wife of a wholesale furniture dealer was treated for tinnitus at the Presbyterian Eye and Ear, and later consulted me, as she thought the dispensary physicians were not benefiting her.

4. Mrs. G., whose husband has a fine home on Madison avenue, and who owns several other properties, was treated at the clinic of the Northeastern Dispensary.

5. S., a boy of 13 years, whose father has a palatial home on Eutaw Place, was treated at the Hebrew Hospital Dispensary.

6. The wife of a dealer in wholesale plumbing supplies was treated at the Presbyterian Eye and Ear.

7. Mrs. L., whose husband is a wholesale butcher, and who owns several properties, was treated for a bonefelon at the Johns Hopkins Hospital Dispensary.

8. An insurance agent, and who is also a secretary of one of the Heptasoph lodges, about 30 years of age and well dressed, called at my office in reference to some insurance papers in a case in which I acted as a coroner. He said to me: "Doctor, I see you are examining eyes. I may come to see you about having my glasses changed. I had my eyes examined at the Johns Hopkins Hospital Dispensary recently, and they don't suit me." I asked him casually how he was doing, in order to find out the reason for his going to the dispensary, and his answer was: "I have no cause to complain." The worst part about it is the lack of hesitancy or embarrassment to tell me that he was a dispensary patient. He did not realize that he was a recipient of charity. It is the lowering of the self-respect of the people that is one of the worst features of the dispensary abuse.

9. A. C., a clothing cutter, who has a good position, recently obtained from the Presbyterian Eye and Ear Dispensary two prescriptions for eyeglasses, one for himself and one for his little daughter. He paid the optician $12 for the two pair, made with gold frames, as he would not have cheaper frames. But these are daily occurrences.

Now, these are but a few instances of "dispensary abuse" observed by one physician during a short period. Multiply the cases that come to notice of over a hundred dispensary physicians during the course of a year, and think of the large amount of money lost to the profession. Bear in mind that it hits hardest the hard-working and underpaid practitioner, who has the responsibility of raising a family respectably commensurate with the dignity of a professional man. The very same patients who impose on the good nature of the dispensary physicians save their money to buy jewelry and diamonds. I know of a few instances where women have concealed their jewelry prior to their visiting the dispensary and put them on again soon after leaving the free clinic. Dr. Hiram Woods of our city, who evidently has made a study of the dispensary evil, and who has expressed his views in the MARYLAND MEDICAL JOURNAL, July, 1906, mentions: "A rich dispensary dead beat who was treated gratis at the Presbyterian Eye and Ear Dis-

pensary, after his death left an estate assessed at something over $100,000."

The Committee on Dispensary Abuse appointed by Dr. Earle in 1907 sent out letters to physicians asking them their views on this question. One of the physicians replied thus: "The worst and practically the only dispensary abuse that I have knowledge of is the one where persons are charged for the prescription, usually 10 cents. This has prostituted more pay patients into 'beats' than anything I have encountered in 25 years of general practice. I could recite you many cases where people worth several thousand dollars, and paying everybody else, apparently, but a doctor, use dispensaries, saving their consciences by this 10-cent fee, and would indignantly deny being objects of charity. My opinion, therefore, is that there is but one abuse worthy of the name, that is, charging a fee for medicine. Make it charity pure and simple, and you at once do away with the abuse, as far as it affects the general practitioner at least."

According to Dr. Fred C. Merrick of Cleveland, only about one-third of those coming to Charity Hospital Dispensary of that city are worthy poor and cannot pay a physician. One-half, although able to pay, came because they could receive free treatment, consisting largely of the foreign element. This condition also exists, I believe, in our city, and therefore the dispensary evil hits hardest the physicans practicing in East Baltimore. This class of people are under the impression that dispensary doctors are well paid by the city; in fact, that dispensaries and hospitals are well provided for by the municipality, and they do not feel themselves objects of charity at all.

The problem of dispensary abuse is world-wide. The free policlinics of Germany are a great hindrance to the material progress of the German physicians. The free treatment in the hospitals of Paris has doubled in the last 15 years, and the authorities have been forced to appoint a committee to determine the means for preventing admission to free hospitals by patients able to pay their own fees. London has found an abuse rate of 57 per cent. in the Children's Hospital alone. Philadelphia has seen an increase of free medical treatment in 23 years from 15.9 to 23.8 per 100 of the population. New York has seen the enormous increase from 16 to 45 per cent. of the population. In 1911, 665,000 new patients were treated in the dispensaries of the borough of Manhattan. In Chicago there are 55 free dispensaries, and in 1911 about half a million applied for free treatment and the number of visits paid were 1,153,000 (worth, at a low economic valuation, including examinations, operations, etc., $3,300,000). In many cases the applicants for relief were found to be property-owners, well-to-do citizens, or persons drawing comfortable salaries.

The Committee on the Abuse of Medical Charities, Chicago Medical Society, remarks: "In spite of the fact that several hundreds of thousands of men, women and children in Chicago apply annually and receive the unpaid services of institutional physicians, amounting in value to millions of dollars each year, yet the vast

system entailed by this unrequited labor goes on utterly without comprehensive understanding, without general supervision, and, in fact, always is in a state of unsupervised chaos. One needs no more signal proof of the lack of business common sense on the part of the medical profession than this. The absence of comprehensive understanding and wise supervision of such a vast system is one of the anomalies of sociology."

Primarily, dispensaries have been established to meet the charitable needs of the indigent sick.

1. As a source of clinical material for medical colleges and to afford opportunities for research work.

2. For business motives, to fill the offices of dispensary physicians with patients, and for commercial purposes by exacting small fees, as referred to already in this paper. The Committee on Dispensary Abuse in New York has pointed out this phase of abuse, and since the law governing dispensaries went into effect in that State dispensaries run for purely commercial purposes have been driven out of existence.

3. Dispensaries conducted by missions for religious motives. Dispensaries are supported by the city, voluntary contributions and by receipts of sale of drugs and tickets.

The dispensary evil must, therefore, be considered from several viewpoints—from the point of view of the patient, from the point of the physician and the community, from the patient's viewpoint.

The class of patients treated at dispensaries may be divided into several groups:

1. The really poor, about whom there can be apparently no mistake, and yet I have been informed by the social worker connected with the Hebrew Hospital Dispensary with whose eye and ear, nose and throat clinics I have been connected for several years, that outward appearance and dress is no index as to the applicant's financial state, for they found that some patients, although they looked like beggars, were really property-owners or had large bank accounts.

2. Those temporarily embarrassed by sickness, loss of employment or those who have failed to save for a "rainy day;" also those who have spent their last cent for doctors and medicines, and those who have been exploited by quacks and charlatans. On the other hand, a working girl, or a woman of a good family, and driven to the wall, will spend almost every dollar they earn on good clothes so as to make a good appearance. It would certainly be a gross injustice to turn her away or to embarrass her with tactless questions. It would often take a trained social worker or one who is a good judge of human nature to draw the line between the deserving ones and the impostors.

3. Those who believe that they can get better treatment at the dispensary. Sometimes they have good reasons for their belief, and too often they have no reason at all to be dissatisfied with their family physician; they simply expect impossibilities; they want to get well in a few days when it ought to take several months. We all have met with these cases; we are doing everything in our

power for our patient, but we cannot satisfy him. In one instance he will go to another doctor, and in the other instance he will make his way to the dispensary, or, as it is often the case, goes from one dispensary to another. At times they will drift to the dispensary just to find out whether the doctor is treating them for the right malady; they may or may not go back to the former medical attendant. Often it happens that the dispensary doctor makes a different diagnosis, and then the patient feels that he has a good cause to beat his doctor. They will also often frequent dispensaries because they heard that great professors or specialists are connected with it, and they will often come from all parts of the city or neighboring towns. Most individuals belonging to this group are not proper dispensary cases, but often it is hard to draw the line. That patients frequently get an unsatisfactory examination and improper treatment at the hands of medical men is also too true, and they have just cause for desiring a change. They are at liberty to go to some one else who will give them a proper examination if they are willing and able to pay for it, but they are not the proper cases for the dispensary. The people must also be educated to the fact that they must pay a proper fee for a good examination. It is ridiculous to expect a doctor to make a thorough physical diagnosis, urine examination, blood count, or to take blood pressure for 50 cents, or even a dollar, which is the average consultation fee of downtown physicians of our city.

4. Patients sent by doctors for special diagnosis or when they require X-ray, a Wasserman, etc.

5. Those desiring to consult a specialist. People of ordinary means who are able to pay a general practitioner's fee, but who cannot afford to pay a specialist. Unfortunately, many a specialist, to my knowledge, will tell a prospective patient of this type, "My fee is no less than $5, and if you cannot afford to pay that much, you better go to a dispensary." This is the practice of one of the most prominent oculists in our city, for whom I have the greatest respect and admiration, but he is wrong on that score. By this procedure he does an injustice to the patient by compelling him to go to the dispensary, and he also hurts a younger man in the speciality who is willing to accept a smaller fee, and who is thoroughly competent to treat the majority of eye diseases. It should be the former's duty to send the patient to one of his younger colleagues instead of the dispensary. This is perhaps one of the reasons why the special clinics, in which I am interested, are now taken advantage of more than any other clinics. People who, as a rule, will consult a private physician whenever they suffer with the cardio-respiratory or digestive organs will go to the dispensary when something is the matter with their eyes, ears or nose and throat. This mode of procedure, of course, holds good in other specialties.

6. There is another class of patients, who belong to the large middle class, who cannot afford to pay for a minor surgical operation. They are proper charity patients if that be true, but, of course, they must be investigated by a competent social worker, who should be in touch with their family physicians.

A frequent transgressor we find in an individual who cannot pay the fee of a high-priced surgeon or a specialist for an operation; but as long as there are found men who can do the work just as well and who are satisfied to accept fees commensurate with the patients' pockets, the latter should be referred to the smaller-priced surgeons or specialists.

DISPENSARY ABUSE PRACTICED BY PHYSICIANS.

It is claimed that physicians use the dispensary as a medium of filling their private offices with patients, or for what they can get out of it. Some dispensaries, as has been shown by the Commission of Dispensary Abuse in New York, are run purely for commercial purposes. It is claimed that physicians take advantage of the dispensaries by exacting free consultations. I doubt if this charge is true, as no sensible physician would willingly cultivate the patient's taste for dispensaries, and if he does refer him to the dispensary, it is because the patient is unable to pay a consultation fee. I do not believe that we have in Baltimore dispensaries which are run distinctly for commercial purposes, but I do believe that there is a larger number of dispensaries than we have need of. This, in my opinion, is due to the legitimate desire of physicians, particularly specialists, for clinical material. This opportunity being denied them for some reason or other at old and well-established dispensaries, they seek pastures new. In their effort to get grist for the mill, abuse in some form or another is the logical consequence. Physicians take pride in the large number of cases they handle every day, and one dispensary endeavors to make a good showing in its annual reports by having handled a larger number of cases than another dispensary.

It must be borne in mind, however, that the average dispensary physician is conscientious in his work and spends at the dispensary from one to three hours a day free of charge; moreover, he has to make his own living. Whilst it would be poor policy for him to invite patients from the dispensary to his own private office, a list of names of the physicians affiliated with the dispensary should be handed to a patient who is found to be undeserving of free treatment by the registrar or the chief of the dispensary, as the physician connected with that institution undoubtedly deserves the preference.

The bestowal of free treatment upon those who can afford to pay for it has an evil effect in many ways: it prevents and stunts the moral sense of the applicant and weakens his self-reliance; it is a direct offense against the really deserving poor, for whom these institutions were founded. The physician who treats gratis has but a limited time at his disposal, and if part of it is taken up by undeserving patients, he cannot devote enough time to the deserving poor. Moreover, these imposters have a lot of nerve; they push themselves forward and are more exacting than the others. The physician practicing among the poorer class is certainly wronged. Those who can afford should pay for medical attention as well as they pay a grocer, butcher or for other merchandise,

and by paying for professional services they enable the physician to support himself and those dependent upon him. In fact, the physician should be so situated that he should be free from care as far as making a living is concerned, so that he may devote all his time and thought to his profession and still have plenty of time for the deserving poor. Many a doctor, with a high sense of professional honor, will keep on struggling for an existence, fighting against a system which some of his confreres have helped to build up, and remain loyal to the old tradition of our profession, but there are others who, in medical parlance, have less power of resistance, and gradually yield, and then we are apt to call them quacks and charlatans, whereas those who are responsible for this condition should be stamped as such.

One observer on this question remarks: "One of the most potent factors that tend toward the degeneration and demoralization of our beloved profession in this country is the dispensary evil. The profession is tired of being called on to render free service to the poor. No lawyer is ever expected to defend a low criminal gratuitously, so why should he be paid for legal service and we be compelled to render free medical service to the same man?"

This brings us to the question of the community toward the dispensary. It is the duty of the municipality to care for the sick poor. It spends the taxpayers' money for sanitation. Is not the care of the ambulatory poor sick in the line of prevention? Neglect this type of patients and you manufacture hospital cases, and only too often the charities will have to take care of those dependent on the patient. The community evidently knows its duty toward the hospital, but it undervalues the importance of the work of the hospital. One writer says: "The dispensaries are well worthy of a position equal to that of hospitals." Why not? An infected hand pains as sharply as an infected foot. There is equal danger to life, and the family in either case suffers equally: a man cannot work with either. But the one is a dispensary patient, because he does not absolutely need a hospital bed; the other a hospital patient, because he cannot come to the dispensary. The trend of medicine toward the prophylaxis will necessarily bring the dispensaries into a position of greater importance. The dispensary visit is the first symptom of an invasion into the patient's sociologic status by some disease, physical or social, capable of doing damage. Action then is more efficient and timely than later, when this patient has reached the hospital stage. It is surely as good charity to keep a man out of a hospital bed as to care for him after he is in it. The great possibilities of such institutions in the development of prophylactic and community medicine are just beginning to be recognized.

Is it possible to abolish dispensary abuse? I spoke to a number of medical men on this question. They all admitted that it does exist, and most of them even confessed that they are feeling the effects of it. But they say, "What are you going to do about it?" They evidently regard it as a necessary evil. Well, I am

one of those who believe that a solution of this problem is possible, provided we all co-operate. But there is where the trouble comes in. It seems that physicians will easily co-operate on any question concerning the *people's* good, but they will not stick together when it concerns their *own* good. If it would not seem to detract from our dignity as professional men, we could learn a valuable lesson from our trades-unions. If the average American workman is better paid, better housed, better clothed and lives more comfortably than his European brother, it is solely due to the spirit of co-operation of the trades-unions with which most of our skilled workmen are affiliated.

Dr. Wood, in his splendid article on "Dispensary Abuse," in the MARYLAND MEDICAL JOURNAL of 1906, remarks: "There would be no abuse if everybody was, so to speak, on the square. But everybody is not. The deserving and undeserving could be easily separated if our judgment would be always unselfish and infallible. But neither of these conditions exist. No one dispensary may or can remedy the evil, no matter how sincere and painstaking the efforts may be. If anything is to be done, professional co-operation must be at the bottom of it." He further remarks: "A conscientious physician, doing his best for the welfare of those under his care, should not have to meet business competition from an endowed charity or from an institution supported by public money." We regulate relations in private professional life, to at least a great extent, by what we call "ethical" standards. Is it possible to educate professional opinion to the point of applying ethical standards to the dispensary abuse? The solution, if ever reached, will be reached, in my judgment, only by what I shall call co-operative study of the question. If a tribunal, having the authority of this faculty, composed of men in whose judgment and desire for square dealing the members of the faculty have confidence, could undertake this study, seek testimony from the physicians who claim they *are* wrong, and from the authorities of institutions said to *do* the wrong, something of practical good might—nay, I believe would—result. Such co-operative study of the dispensary evil, backed by a genuine desire of this faculty to remedy it, provided the desire exists, is all I have to suggest, but without a pervading and genuine desire and frank co-operation we might as well do nothing. This meeting might take the initiative by requesting the House of Delegates to appoint such a tribunal, to be called, by way of suggestion, "A Committee to Investigate the Extent and Possibility of Correcting the Dispensary Evil." Dr. Wood's suggestion was carried out by the outgoing president, Dr. Earle, by the appointment of such a committee, headed by Dr. William Thayer, in 1907. What has the committee accomplished? Nothing. It had expressed its views on this evil; it had made a suggestion that improvement in existing conditions could be brought about only by thorough co-operation of the City Medical Society in conjunction with the Charity Organization Society and other bodies and individuals who have given special study to social problems. The committee was then discharged,

with thanks, and dispensary abuse is flourishing today as in former times. As the German says, "Eine alte Geschichte doch bleibt sie immer neu."

The State that has done more to eradicate this evil than any other is New York. In order to explain what has been done in that State, I shall quote part of an editorial of the *Journal A. M. A.* of March 10, 1906:

"The New York law requires all dispensaries to be licensed by the State Board of Charities. No dispensary may be opened unless it can be shown that there is need for such an institution in that locality, and that when it is established it will be properly maintained. Suitable buildings must be provided, drug stores or tenements may not be used, seats for all applicants must be provided, cleanliness must be maintained, and a matron or female nurse must be present at all gynecologic examinations or treatments. The apothecary must be a licensed pharmacist or a medical graduate. Regularity of service is insisted upon, and also strict rules regarding the isolation of contagious diseases. The board is empowered to revoke the license for cause, and has done so when necessary.

"These provisions are certainly not unreasonable, and it should be possible to enforce them. In 1899, previous to the passage of the bill, dispensaries were in operation in tenement-houses, drug stores, and dilapidated old buildings and shanties. One, which reported treating 48,000 patients annually, was conducted in a wooden structure 12x20 feet and 8 feet high; in another, water for physicians and patients was brought in a bucket from the next building. The last report of the board showed that 109 out of every 119 dispensaries inspected were found in location and equipment to meet the requirements of the law. There has been an actual diminution in the number of dispensaries in spite of the steady increase of New York's population. In 1899 there were 136 dispensaries, in 1909 only 119, although the population of New York City has increased 150,000 annually during that time. In the matter of proper conduct of gynecologic clinics, the keeping of records and the regularity of attending physicians, the board reports decided improvement.

"Undoubtedly, then, the law has been of marked benefit in raising the character in free dispensaries, and from this point of view it may be held up as a model to other States. But why should it have failed in remedying the evil for which it was especially framed? The answer is interesting, for it seems that, while the medical profession was responsible for the framing of the law, and is, of course, the chief sufferer from the abuses which it sought to abolish, it is the medical profession which defeats and nullifies it. Practically no genuine effort is made to weed out from a dispensary clinic the patients who probably are able to pay a physician's fee. Physicians in charge of dispensary clinics take pride in having a large number of patients on their days."

New York also has a law which, if enforced, would go a great way in abolishing the dispensary abuse. Penalty for false representation under Section 296, Chapter 55, Consolidated Laws:

"Any person who obtains medical or surgical treatment on false representation, from any dispensary licensed under the provisions of this act, shall be guilty of a misdemeanor, and on conviction thereof shall be punished by a fine of not less than two dollars and not more than two hundred and fifty dollars. Imprisonment until fine is paid may be imposed."

In 1912 the Medical Society of the County of New York appointed a Commission on Dispensary Abuse to investigate not only hospital and dispensary abuse, but also the problem of the commercializing of professional services to beneficiary societies and lodges. The sum of four hundred and fifty dollars was appropriated to pay for the services of a person who would make a detailed investigation of applicants for medical charity, and the committee was empowered to employ a paid secretary. Regret the lack of time to give you the result of their investigation, but will enumerate their recommendations:

1. Posting the Law. The requirement that the law be posted in the dispensary is often complied with, but not always in a conspicuous manner. We recommend that these notices be printed in several languages and conspicuously posted.

2. Registrar. The regulation governing registrars is as follows: "There shall be an officer known as 'The Registrar,' whose duties shall be to supervise the work of the dispensary, either personally or by a competent deputy selected by him for that purpose, to make and preserve all records, receive all applicants and see that all rules and regulations are enforced."

We find that all the dispensaries investigated are provided with registrars or deputies, as required.

3. Admission of Applicants. The regulation governing the admission of applicants is as follows:

Sec. 1. It shall be the duty of the registrar to examine all applicants to determine the question of their admission, and the following rules shall guide his action:

(a) All emergency cases shall be admitted and receive prompt treatment and care.

(b) Every applicant who is, in the opinion of the registrar, poor and needy shall be admitted.

(c) Patients who are received in dispensaries connected with medical colleges and whose cases are selected for clinical instruction may be admitted without examination as to their ability to pay for the service of a physician.

(d) Every applicant, either personally or by the parent or guardian of such an applicant, whose personal appearance does not indicate that he is poor and needy, shall be questioned by the registrar as to his ability to pay for medical or surgical relief, advice or treatment, medicine or apparatus, or either, in whole or in part, and if the registrar is still in doubt with regard thereto, the applicant shall be admitted to a first treatment on signing a card containing a "representation" of statement of the applicant, but the registrar shall forthwith cause an investigation of his or her ability to pay personally or by parent or guardian; the results

of such an investigation, together with the representation card, shall be filed among the permanent records of the dispensary. Any such applicant who declines to sign the required "representation" or statement shall be refused admission.

The methods adopted by the Baltimore dispensaries in order to keep out unworthy applicants are loose. If the latter look rather prosperous, they are asked if they are able to pay a doctor. The usual reply, of course, is that they are not, and they are then assigned to the proper department for treatment. Investigations as to the truthfulness of their statement are seldom, if ever, made. Several dispensaries have a sign: "Dispensary for the Poor." The Northeastern Dispensary, where I conduct the nose and throat clinics, has printed on the back of the cards given to the patients the following: "The services of physicians and surgeons are given free and are for the poor only. Patients who are able to employ a physician will not be treated except in cases of recent accident or emergency."

I will not give suggestions as to the remedy or abolition of this widespread evil, as we have no specific as yet, but a great deal can be done if we are united on this question and if we are sincere in the matter. There is one suggestion I wish to make, and that is the appointment of a *permanent* Committee on Dispensary Abuse, which surely deserves a place among the Committees on Pure Milk, Anti-Noise Committee and Social Hygiene Committee, etc. A committee that will deal with the problems as they present themselves.

In conclusion, I will repeat the words of Dr. Wm. G. Wulfahrt in *American Medicine* of March 11, 1911:

"It is no longer a question of the survival of the fittest, but the contrary holds true in this case. And who are chiefly to blame for this shameful condition? It is, I say, the leading lights of our profession, who alone are the masters of its destinies.

"And are they trying to corect existing evils? Being themselves the favored children of fortune, are they mindful of the misery they indirectly and perhaps unknowingly heap upon their outraged colleagues, who, by a strange caprice of fate, become the agents of their own destruction? In all sporadic outcries about the dispensary abuse that still echo in our ears and penetrate the very heart, we can always discern the voice of one who has himself been hard hit by the system. Never of the one who is a recipient of its benefits. But why should these men of authority and power hide in the background at the time when thousands of their colleagues, in their battle for an earthly existence, are looking up to them for salvation and relief? Have any of the medical societies attempted to take the part of their wronged and poor members? If not, why not? Is there any relief in sight? Will this most intricate problem find its own solution? Will a great and brave leader ever come forth to champion this worthy and noble cause? Who knows?"

1729 Madison avenue.

THE MENACE OF BUBONIC PLAGUE TO AMERICAN SEAPORTS.*

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At the present time bubonic plague is widely spread over the face of the globe. In the North American continent it exists in California, Seattle and New Orleans. It has just broken out afresh in Cuba, and in South America the disease was reported only a short time since in Brazil, Ecuador and Peru. In September last plague appeared in Italy and Greece, and only last August there occurred nine cases with three deaths in Liverpool, while in October plague broke out in pneumonic form in Portugal. Plague is present in Russia, cases having been reported in the Astrakan less than a year ago.

Egypt has plague, and within the past six months the disease has also appeared in British East Africa, German East Africa, Senegal and the Island of Mauritius. In India and Indo-China plague is endemic. Ceylon, Siam and the Straits Settlements must be considered as infected. The Caspian coast of Persia reports cases as recently as last December, as does also Turkey in Asia. From April 1 to September 30, 1914, there were 8794 cases with 7728 deaths in the Dutch East Indies, and a report of October 31 last shows that the disease was still spreading there with unabated violence. Japan is infected. Plague exists in practically all of the large ports of China, and cases were reported less than a year ago in the Philippine Islands and Hawaii.

Plague is essentially a ship-borne disease, and therefore those ports which have free commercial communication with the rest of the world are liable to its incursions unless they erect those barriers which will prevent the introduction of rats. Plague is a rodent disease, transmitted usually from rat to rat and from rat to man through the intermediation of the flea. No one species of rat and no single species of flea is necessary for the transferrence of the bacillus of plague from the sick rat to the well rat or from the sick rat to the well man. Therefore, when it is desired to exclude plague, the operations to be put in force have for their object the exclusion of rats. It is not necessary that this exclusion shall be such as to interfere to any very great extent with the movement of commerce, but in order to be effective it must definitely remove rats from intimate contact with man. The introduction of rats into a community may be prevented by the thorough fumigation of all ships entering the port, such fumigation to include the cargo as well. Unfortunately, the reliability of this method is somewhat lessened by the fact that it is exceedingly difficult to successfully fumigate vessels for the extermination of rats, and while it is de-

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sirable for economic reasons that no more rats be introduced into the community, it should be borne in mind that this method is expensive, and should it be omitted a single time the introduction of infected rodents may result. In order to be absolutely successful it should be applied to all vessels regardless of their port of departure. Plague in all probability exists among rodents in many ports of the world without the knowledge of the sanitary authorities of those ports, and there may be places in which the disease is known to exist but of which we have no knowledge because for commercial reasons it is concealed. Furthermore, it is a well-known fact that in those ports which have a well rat-proofed water-front, rats from infected countries leave one ship and, finding no asylum ashore, take passage on an outbound vessel. It is thus seen that the attempt to protect a city or a country against plague by the single measure of fumigation is at best an expensive makeshift.

The truth is that the only sure protection lies in adequate ratproofing. This, in order to be effective, should begin with the water-front. No port which does not have ratproof docks is safe from an incursion of plague, and the menace of this disease is such that it behooves the municipalities of the United States to take immediate steps looking to the accomplishment of this end. This is an economic as well as a public health measure. Every case of human plague in a community costs at least $7500. Every case of rodent plague in a community costs at least $5000. The enormous losses by reason of quarantine and the diversion of commerce are so great and vary so much as to be almost beyond even approximate estimation. It is not sufficient that the water-front alone be ratproofed. This work should be carried to a point where every premises occupied by man, either for domiciliary, mercantile or manufacturing purposes, has been rendered proof against the entry of rodents, and once this has been accomplished, the presence of rats in a community, or of disease among them, may be practically disregarded, since if rats have been thrown out of contact with man he need have no fear of the diseases which they carry. More than this, a city which is ratproof has a lower morbidity and mortality rate from the other communicable diseases than those cities which are not ratproof. This applies particularly to the environmental diseases which are so markedly affected by the improvement in the conditions under which man lives and works.

Ratproofing, then, is a prerequisite. There are several methods of making buildings ratproof, but the ideal is by the use of concrete on the ground areas, the stoppage of accidental openings around plumbing and electric wires, the abolition of harborages in double ceilings, and the closure of roof openings by wire gratings. It should be borne in mind that no ratproofing is absolute against the entry of rats, but it can be made so effective that even should a rat gain entry it would not find harborage, and therefore would be forced to vacate the premises. To a certain extent the manner in which ratproofing is to be applied will depend upon the species of rats present in a given community. In those places in which the

Norway rat, which is a ground dweller, is the only variety, particular attention should be directed to the ground areas. In those localities in which black rats and Alexandrine rats also occur, means must be taken to prevent their entry through roof openings, because these species are climbing rats. In plague prevention work mice may be left out of consideration, as they are practically a negligible factor in the perpetuation of plague. For example, out of some 255,000 rats examined in the city of New Orleans, only one infected mouse was found, and this under extraordinary conditions not liable to repetition.

Concrete is the ideal ratproofing material. It is applied in the form of a side wall at least two feet below the surface of the ground and one foot above the floor level. The first provision has been found necessary in order to prevent rats from burrowing underneath the concrete floor and there finding an ideal harborage. The rise above the level of the floor is necessary in frame buildings to prevent the rat from gnawing a hole at the junction of the floor with the side wall. This is particularly important, because without it the rat will gain entrance to the space between the outer and inner walls and there be safe from molestation.

The area under the ground floor should be carefully filled in if there be no basement. On the filling should be tamped a layer of gravel, cracked rock or hard cinders, and on this a concrete floor five inches in thickness, with an inch of smooth surfacing. This will protect the ground area, providing all accidental openings about plumbing, electric-light wires and the like are carefully closed. If there is a basement, this should have a concrete floor, with brick or concrete side walls, and in such instances it is preferable that the basement be constructed without a double ceiling, because, as was demonstrated by Surgeon-General Blue as long ago as 1903, double ceilings make ideal harboring places for rats. Ceilings for the second and third stories should be torn out wherever practicable, thus doing away with the bottom of the box-like structure, which forms such an ideal rodent habitation. If this is not practicable, entrance to the box should be prevented by the use of metal flashings extending six inches on the floor and six inches up the side wall. This type of ratproofing is usually called "Class A" ratproofing, and is to be used in food depots of every sort and in those business houses which are particularly liable to attract rats. Stables form a subdivision of Class A ratproofing. Their floors should be of concrete, adequately drained. Stalls should have in addition a grating of wood. Mangers should be metal-lined. Grain should be kept in metal-lined ratproof bins, and manure should be kept in similar containers.

The ratproofing of domiciles is a much more simple matter. Unfortunately, there is considerable prejudice against the use of concrete flooring in houses, both on account of the expense of its installation and because the general public imagines that it makes cold floors. Houses may be ratproofed by elevation on brick or concrete piers at least 18 inches from the surface of the ground.

the space beneath the house to be free to the entrance of cats and dogs, the natural enemies of the rat. In the case of frame dwellings, the space between the studdings should be stopped with concrete or brick to the height of one foot above the level of the ground floor to prevent rats from establishing a residence in the hollow wall.

In many situations it is not practicable to practice ratproofing by elevation, and in such instances a solid chain wall may be substituted, provided that the ground flooring is solid and in good repair. Ratproofing by elevation and by chain wall is known as Class B ratproofing.

The value of ratproofing may be to a considerable extent vitiated if the out-of-door premises is in bad sanitary condition. Wood and lumber in the back yard should be ratproofed by being elevated 18 inches above the surface of the ground, and all outbuildings should be protected against the entrance or harborage of rats.

Another factor in diminishing the value of ratproofing is the presence of rat food. Ratproofing has for its purpose the exclusion of rats and the prevention of their nesting and breeding. By separating the rodent from his pabulum, one of the chief factors in attracting him to the premises has been abolished. This means first of all the maintenance of clean premises, and those cities in which the health officer rigorously enforces all ordinances requiring the cleanliness of the human environment have an additional safeguard against bubonic plague. It means the installation of water-tight metal garbage cans having accurately fitting lids. It means the collection and destruction of the waste products from houses, factories and stores. If this is done not only is the home of man kept free of rats, but also flies and other insects do not breed in such abundance.

It will be noted that particular emphasis has been laid upon the exclusion and starvation of rats. These are the all-important measures. Poisoning, if carefully done, is of value in reducing the rodent population, but without starvation it is not apt to be particularly effective. Perhaps the best agent for poisoning rats is phosphorus. It is usually incorporated in a paste of glucose and starch. Glucose reduces to the minimum the liability of the mixture to spontaneous combustion. Arsenic in a menstruum of lard may also be used. Rat poison is usually put out on small pieces of bread, care being taken to cover all the sides of the morsel. Care should also be exercised to see to it that no poison is placed where it may be taken by children or domestic animals.

Another valuable agent in diminishing the number of rats is trapping. This has a twofold purpose. It was found at San Francisco and New Orleans that the number of female rats is generally in excess of the number of male rats, and that a certain proportion of the female rats contained unborn rats when captured. This in itself effects a reduction in the number of rodents, and it should not be forgotten that even though the female rats may contain no young they are nevertheless the potential mothers of a considerable

number of rodents. Intensive trapping reduces the number of rats considerably, and one of the best gauges of this reduction is the relation between the number of captured rats and mice. The trapping of mice is accidental, and not intentional, the mice taken being a merely by-product of rat-catching. The rat is the fiercest enemy of the mouse, and when rats are plentiful mice are very careful not to roam abroad. From this it might be deducted that as the rat population diminished the mice would be able to move about with greater freedom and would therefore be more apt to be taken in traps. Such is actually the case. For example, in July, when the anti-plague campaign began in New Orleans, the percentage of mice caught was 9; in August it was 11.08; in September, 30; in October, 41; in November, 49; in December, 49.75, while in January it was 60. Conversely, the percentage of rats fell from 91 per cent. in July to 40 per cent. in January.

If to trapping is added the laboratory examination of the captured rodents, a second purpose is accomplished. If a considerable number of rats are taken from all portions of a city and subjected to careful laboratory examination it is possible to determine whether or not they are plague infected, and should any prove so, to take those measures which will prevent plague among rats from spreading to human beings. This is most important. No seaport in the United States can truthfully say that it has no plague until it has made a careful survey of its rodent population. It is not enough that a few hundred rats should be sent to the laboratory. It is necessary that thousands be captured and carefully examined by a bacteriologist skilled in the diagnosis of rodent plague. Neither is it sufficient to assume that because rodent plague was not discovered this month or this year that it may not exist in some future time, and it therefore becomes the duty of municipalities to appropriate sufficient money to permit their public health departments to continuously trap and examine rats. The rule heretofore has been for municipalities to put this off until the presence of human plague makes it absolutely necessary to inquire into the prevalence of rodent plague.

If there is anything at all in the doctrine of preventive medicine, it should be applied to the prevention of disease rather than to eradication after the epidemic has gained a serious headway. Plague has already appeared in three cities in the continental United States. It exists in many of the countries with which we have intimate trade relations. It is a disease which disregards climate and geographical location, and merely because its presence has not been discovered in other American seaports is no guarantee whatsoever that it does not exist there among rats at the present time. Plague is a menace to every port on the American seaboard, and with the growth of our foreign commerce this menace is daily increasing. Nothing short of serious interference with commercial relations will prevent its gaining a foothold in American ports unless the municipal authorities of these ports themselves will take cognizance of the danger which confronts them and apply plague preventive

measures before it has become necessary to put plague eradicative measures into operation. The eradication of plague is both difficult and costly. The prevention of plague is relatively simple and inexpensive. The policy of waiting until human plague has appeared is gambling with human lives and prosperity. The policy of plague protection is health and commercial insurance. Plague has spread around the world. It menaces every port in the United States. This menace will come to naught if we will erect the proper fortifications against plague and take those measures for its prevention while the opportunity still lasts.

A SEVERE CASE OF GASTRITIS AND ENTERO-COLITIS DUE TO POISONING WITH INFECTED ICE-CREAM.

By John C. Hemmeter, M.D., Phil. D., LL.D.,
Professor in the University of Maryland.

THIS case is one of particular interest, because it happened to a physician who himself traced the source of infection.

On December 6, 1914, Dr. Richard McSh—— and two guests, a gentleman and wife, took dinner in a restaurant. The doctor and the lady of the party had strawberry ice cream for dessert, the other guest had something else. Both of the parties who had eaten the strawberry ice cream became violently ill within half an hour after eating the cream. The lady began to vomit within the half hour. The ice cream was noted to have had a peculiar metallic, coppery taste. His guest had been perfectly well up to the eating of the tainted ice cream. She then became dizzy, felt faint, retched, vomited, broke out into a cold perspiration, felt very chilly, had severe pains in stomach, griping, purgeing, feeling of numbness, dilated pupils, was almost pulseless and greatly prostrated. Dr. McSh—— felt weak, nauseated, chilly, had pain in stomach, sensation of numbness in limbs, dizzy, constipated, prostrated and vomited daily up to December 31.

On December 9 Dr. McSh—— consulted Dr. J. C. Hemmeter, who gave him a thorough examination. The facts elicited are as follows: Age, 59; single. Previous history: He had never been ill in his life. Present illness started about one hour after eating the dinner above referred to. Symptoms of acute gastritis and prostration. Was able to retain nothing in his stomach. Accompanied by constipation. Boas-Ewald test breakfast gave a total acidity of 50. Free Hcl. 28. Pepsin and Rennin digestion normal. Proteolysis Mett—3 mm. Urine, slight trace of albumen; also excess of indican. Stool examination showed much mucous over the stool. No macroscopic blood but occult blood demonstrated in feces. Duodenal string test January 4 gave the blood reaction. A subsequent second string test a week later was negative. Dr. McSh—— also had pain and distress in the gastric

region, with vomiting, and had a marked general depression, loss of energy and apprehension of a severe illness.

Lavage of the stomach with kaolin and lavage of the colon with 1 per cent. ichthyol was prescribed, together with a very careful diet and strychnine in the Essentia de Calisaya internally. The results of this treatment were the slow but complete recovery of Dr. McSh—— by February 1.

Dr. J. C. Hemmeter examined 22 specimens of ice cream by the Escherich-Weigert stain, and found eight of them to contain more bacteria than could be considered as a permissible limit. Good ice cream should show no bacteria whatever with this stain.

Several references to ice-cream poisoning are found in literature. Bahlman, in the *American Journal of Public Health* for November, 1914, says the bacterial content of ice cream is so high that studies of the cause are imperative. Cream is obviously the source of the great majority of bacteria found in ice cream. Proper pasteurization of the cream and enforcement of sanitary regulations, he claims, will reduce the baterial count in ice cream. Pasteurization of the mixture just before freezing the cream does not affect the taste of ice cream. Sanitation at the dairy must not be neglected, but proper refrigeration and transportation facilities in large cities are far from satisfactory. A perfect product at the source of supply may be teeming with bacteria by the time it reaches its destination, and under the present conditions pasteurization is the only remedy.

Vaughn and Novy (page 219, 1902) say that ice cream is frequently harmful. It is claimed that ice cream often owes its poisonous properties to small quantities of zinc or tin dissolved during the process of freezing. Some samples of ice cream act as emetics. Chromate of lead has been found in cream puffs. Tyrotoxin was found in ice cream by Vaughn and Novy, while Schearer reported the same poison in ice cream which made many persons sick at Nugent, Iowa.

In 1896 Vaughn and Perkins reported (*Archives of Hygiene*, page 27) a reaction of a new toxin in ice cream differing from tyrotoxin chemically, inasmuch as it is not removed from alkaline solution with ether. Physiologically its action on the heart closely resembles that of muscarin or neurin. Pathologically it induces a high degree of local inflammation when injected subcutaneously or peritoneally, and after death the contractions of the intestine so characteristic of tyrotoxicon poisoning were never found. In persons so poisoned symptoms appeared within three hours and consisted of nausea and vomiting and diarrhea in some cases. Some cases vomited, accompanied by sharp pains in the abdomen (relieved by pressure) and had a very weak heart, hands and feet cold, and in those cases stupor and death. Those who vomited little, had no diarrhea. The germ bears a close resemblance to the colon bacillus, which, when found in milk, is an unmistakable indication that this milk is dangerous and unfit for use.

As regards the treatment of cases like these it should be empha-

sized that cleaning the stomach and colon are immediately to be undertaken. When there is great prostration, hypodermic injection of strychnine gr. 1/36 is necessary, but for the relief of the pain, nausea and vomiting hypodermic injection of 1/6 grain morphine should not be delayed too long. The first two hours of vomiting is beneficial, but after the stomach and bowels are thoroughly evacuated the continued vomiting leads to exhaustion and should be prevented.

Occult blood in the stool, and even a positive string test, with severe gastric pain after such an unmistakable food infection and intoxication, does not warrant the diagnosis of gastric ulcer or duodenal ulcer. As Vaughan and Parkins report, their new toxin gained from septic ice cream induces a high degree of local inflammation when injected peritoneally, and the *Sepsin* of Edwin S. Faust is all but a specific toxin for producing duodenal ulcers. Such lesions, even if they do occur, heal rapidly in such cases after the toxins are eliminated. May 1, 1915, Dr. Richard McSh—— is in perfect health at this date.

PASTEURIZATION OF ICE CREAM.

By Asa B. Gardiner, Jr.,
Baltimore, Md.

THE need and value of pasteurizing milk having been clearly shown and thoroughly realized, city after city (among the last of which was Detroit) have compelled the pasteurization of milk under an efficient system controlled by the local boards of health. Also efforts are being made to pasteurize the cream before it is made into butter, and this will be brought about in the course of time.

While it may seem odd to speak of the pasteurization of ice cream, yet this matter is comparatively simple, and the need of pasteurization in ice cream is as important as in the case of milk.

If, taking the Baltimore city standard, with 1,000,000 bacteria c. c. permitted, five gallons of this milk would be required to make one gallon of ordinary cream; in this one gallon of cream will be found over 90 per cent. of the bacteria that was scattered through the milk; therefore, one could be expected to begin the process of ice-cream making with 5,000,000 bacteria per c. c.

It is seldom in any plant that the cream set aside or purchased for ice-cream making can be used the day it is received. Sometimes, under unfavorable weather conditions, this cream may be held two or three days, or even longer, and the bacterial count shows a large increase over the count on arrival.

Where absolutely bad conditions exist, such as dirty equipment, lack of storage, carelessness with regard to the prime quality of the cream, bacterial counts as high as 200,000,000 are common.

The pasteurization of ice cream is so effective and of such importance that it is remarkable that our local health authorities, as well as the authorities of other cities, have never required this detail in the manufacture of ice cream. Possibly no action has been taken because of the belief that the pasteurization of ice cream was either an impossibility or so burdensome and expensive as to make it impractical.

Over a year ago we began the pasteurization of ice cream in the original batch, and have perfected the details of this method, and now, for those that are interested, give the report of our laboratory on a batch pasteurized on April 7.

Two five-gallon tanks are used alternately; an amount of cream of about 200 gallons is dumped into one tank, its butter-fat taken, and as this cream often runs as high as 34 per cent. fat, milk and evaporated cream is added so that the cream is standardized to that fixed percentage of butter-fat which is a fixed rule of the business. Evaporated cream is used because of its high percentage of solids and low percentage of moisture and a comparatively small quantity is used.

Beginning with the batch of cream, the contents of the tank were agitated for 15 minutes, and the following results found:

Sample 1, front end of tank, 420,000 bacteria per c. c.

Sample 2, rear end of tank, 400,000 bacteria per c. c.

The milk and evaporated milk was then added and mixed 15 minutes.

Sample 3, front end of tank, 700,000 bacteria per c. c.

Sample 4, rear end of tank, 650,000 bacteria per c. c.

The sugar was then added and mixed for 15 minutes.

Sample 5, front end of tank, 1,600,000 bacteria per c. c.

Sample 6, rear end of tank, 410,000 bacteria per c. c.

(The sugar was poured into the tank at the front end, and it is surprising to note how high a bacterial count sugar has.)

A small amount of gelatine was added and the temperature of the tank contents raised to 148 degrees Fahr., held at that for two hours and 34 minutes. (Pasteurization at this temperature does not either affect the flavor or the digestibility.)

Sample 7, front end of tank, 40,000 bacteria per c. c.

Sample 8, rear end of tank, 50,000 bacteria per c. c.

From this tank the goods passed into a small tank feeding the homogenizer.

Sample 9, front end of tank, 63,000 bacteria per c. c.

Sample 10, rear end of tank, 26,000 bacteria per c. c.

Samples were then taken from the pipe overflow feeding the homogenizer.

Sample 11, overflow at the beginning of the operation, 47,000 bacteria per c. c.

Sample 12, tank half empty, 20,000 bacteria per c. c.

Pasteurization and homogenization completed, and the batch which was discharged from the homogenizer had then filled the

service tank, from which the ice-cream-making contents are fed by gravity to the ice-cream-making machines.

Sample 13, front end of service tank, 16,000 bacteria per c. c..

Sample 14, rear end of service tank, 15,000 bacteria per c. c.

The batch was then cooled to about 34 degrees and held over night and the next morning.

Sample 15, front end of tank, 10,000 bacteria per c. c.

Sample 16, rear end of tank, 9000 bacteria per c. c.

Vanilla flavor was then added.

Sample 17, front end of tank, 9000 bacteria per c. c.

Sample 18, rear end of tank, 10,000 bacteria per c. c.

Ice-cream freezing was then begun and samples drawn from ice-cream-making machines Nos. 1, 2, 3 and 4—on the first run—

Machine No. 1, 25,000.
Machine No. 2, 20,000.
Machine No. 3, spreader on plate.
Machine No. 4, 10,000.

Samples taken of these batches leaving the machine frozen:

Machine No. 1, 24,000.
Machine No. 2, 19,000.
Machine No. 3, 40,000.
Machine No. 4, 10,000.

Samples taken from batch entering machines, Nos. 5, 6, 7 and 8, on the fourth run:

Machine No. 5, 8,000.
Machine No. 6, 10,000.
Machine No. 7, 9,000.
Machine No. 8, 12,000.

Samples taken of these batches leaving the machine frozen:

Machine No. 5, 11,000.
Machine No. 6, 12,000.
Machine No. 7, 17,000.
Machine No. 8, 20,000.

The test for the colon bacillus showed that it was present in the first six samples drawn from tank before pasteurization took place, and in the succeeding 27 samples no B. coli were found in dilutions of 1 c. c. and 1-100 c. c.

These tests were made at the laboratory of the Gardiner branch of the City Dairy Co. by Mr. John D. Eyler, bacteriologist.

When it is realized that probably 90 per cent. of ice cream is consumed by children, and when it is realized that a system of pasteurization of this kind which is not expensive, although adding considerably to the cost, is a perfect assurance against any of the pathogenic germs: and that those germs which have survived are of the lactic type and considered beneficial: the importance of ice cream pasteurization, even under the favorable conditions of arriving cream as found in a large plant, should be made a compulsory provision and carefully regulated by the local boards of health.

MARYLAND MEDICAL JOURNAL

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BALTIMORE, JUNE, 1915

THE JAMES BUCHANAN BRADY UROLOGICAL INSTITUTE.

No doubt by this time our readers are all aware of the opening, to the reception of patients, of the James Buchanan Brady Urological Institute. THE JOURNAL desires to congratulate the Johns Hopkins upon this addition to its already most excellent group of units. Like everything else at the Johns Hopkins, this integer has been constructed with an eye ever mindful of adding something to the sum total of medical knowledge. Undoubtedly the best results in medicine can be obtained by collecting a group of specialists in a building entirely devoted to one line of endeavor, and so the Phipps Psychiatric Institute, the Phipps Tubercular Institute, the Harriet Lane Childrens' Hospital and now the Brady Institute should each and every one prove a potential factor in the advancement of the medical sciences. We of Baltimore and Maryland should be proud of this addition to the Hopkins group, and should rejoice in that it is the most thoroughly-equipped urological hospital in America. This could only be accomplished through the generosity of Mr. Brady. We congratulate Mr. Brady in the name of the Maryland medical profession for his liberality as well as interest in the alleviation of human ills. His philanthrophy has made possible a distinct and complete unit which ranks among the best in the world. In every detail no effort has been spared in making the building a model of modernity. In the building there are no door sills, no corners to the walls, practically no wood, with the exception of the furniture, and hot and cold running water in every room. Special

laboratories, wards, examination rooms, research rooms, animal quarters and electrical equipment bear evidence to the forethought of those planning the building. The slightest detail tending to the comfort of the patient, laboratory man and research worker seems not to have been overlooked. A novel feature is the incorporation in the basement of a machine shop, especially designed and equipped for the manufacture of instruments and apparatus needed for urological work. The building itself is 120x45 feet, and is of brick, the architecture fitting into that of the other members of the group. It has seven stories, with a basement, and commodious porches for all but the first floor. In the basement are the machine shop and rooms for animal experimentation, specially ventilated in order to do away with odor and noise; also utilitarian and storage rooms. On the first floor is the waiting-room for patients, rooms for clinical purposes, history-taking, consultation and examination. These include Dr. Young's office, rooms for the taking and development of X-ray negatives and laboratories for clinical work in bacteriology, pathology, chemistry and three or four rooms for private research. A lecture-room and a small teaching museum complete the floor. The second and third floors are given over to wards of 20 beds each for public patients and rooms for nurses and orderlies. The fourth and fifth floors each contain rooms for 10 private patients. The sixth floor contains the residents' quarters and a lounging place for private patients. The seventh is devoted entirely to laboratories for research work, entirely separated from the routine laboratory work, and is equipped for chemical, pathological, physiological, physical and border-line work.

Thus the Johns Hopkins is to be congratulated upon the addition of another unit to its group, and the citizens of Baltimore and Maryland should rejoice in the Hopkins good luck, for they, to a certain extent, are participants in the gift, which, of necessity, will still further the influence of Baltimore as a medical center, a prestige at present challenged by no American city. May it always be so.

Medical Items.

The seventeenth annual meeting of the American Proctologic Society will be held at San Francisco, Cal., June 21 and 22, 1915. Dr. Samuel T. Earle of Baltimore will read a paper entitled "A Review of Proctologic Literature for 1914." The profession is cordially invited to attend all meetings, which will be held in the Civic Auditorium.

The sixty-sixth annual session of the American Medical Association will be held at San Francisco, Cal., June 21-25, 1915. There are two delegates from Maryland and two alternates, as follows:

Delegates—Drs. G. Lane Taneyhill and J. Hall Pleasants.

Alternates—Drs. E. B. Claybrook and D. E. Stone.

The House of Delegates will convene at 10 A. M., Monday, June 21.

At the annual nurses' commencement of the Maryland General Hospital, held at Lehmann Hall, Tuesday, May 11, 1915, 11 graduate nurses received their diplomas.

At the one hundred and seventeenth annual meeting of the Medical and Chirurgical Faculty of Maryland, held April 29, 1915, in the Faculty Building, 1211 Cathedral street, Dr. John Whitridge Williams of 1128 Cathedral street, Baltimore, was elected president for the ensuing year to succeed Dr. James W. Humrichouse. Dr. Whitridge is one of the leading physicians of Baltimore and a graduate of the University of Maryland Medical School, class of 1888. Other officers elected were: Vice-presidents, Drs. Lewis C. Carrico, Bryantown; Milton D. Norris, Eldersburg, and Joseph A. Chatard, Baltimore; secretary, Dr. Joseph I. France, Baltimore, and treasurer, Dr. William S. Gardner, Baltimore. Drs. John L. Riley, Snow Hill, and Lewis A. Griffith, Upper Marlboro, were chosen to fill the vacancies on the State Board of Medical Examiners.

The Jonathan Hutchinson collection of original drawings, colored plates and photographs, illustrating clinical work in medicine and surgery and constituting one of the rarest collections known to physicians, has been presented to the Johns Hopkins Medical School by William A. Marburg. The collection was secured by Sir William Osler.

Dr. and Mrs. J. H. Mason Knox left recently for California, where they will spend several weeks, and will join the Baltimore colony at San Francisco, where they will visit the Panama-Pacific International Exposition.

The prospectus just issued for the summer courses for graduates in medicine at Johns Hopkins University shows that the classes will begin June 1 and continue until July 15. Some exceptionally good courses have been arranged, and some of the leading educators in the country have been engaged for the faculty.

In medicine the following classes have been announced: Amphitheater clinic, Dr. Lewellys F. Barker and Dr. T. B. Futcher; practical medicine, Dr. L. V. Hamman and Dr. P. W. Clough; clinical microscopy, Dr. T. P. Sprunt and Dr. M. A. Hodge; bacteriological examinations, Dr. C. R. Austrian and Dr. A. L. Bloomfield; diseases of the circulation, Dr. E. W. Bridgman; percussion and auscultation, Dr. S. Wolman; diseases of the digestive organs, Dr. T. R. Brown; diseases of the metabolism, Dr. H. O. Mosenthal; diagnosis and treatment of syphilis, Dr. A. Keidel, and neurology, Dr. C. Lane Taneyhill, Jr., and Dr. C. M. Byrnes.

Dr. E. A. Park and Dr. Kenneth D. Blackfan will have charge of the course in pediatrics, which will include clinics and demonstrations of patients. In the surgical departments the following staff will be available: Drs. C. J. Heuer, R. H. Follis, W. E. Dandy, George Walker, R. D. McClure, F. W. Hobelman, J. S. Davis, H. B. Stone, C. A. Waters, M. R. Reid, H. V. Tweedle, L. B. Whitman, S. J. Crowe, F. Hazlehurst, H. R. Slack, E. R. Strobel and L. R. Pels. Dr. T. C. Gilchrist will give the clinical lectures in diseases of the skin. In view of the fact that only a limited number of students can be accommodated, the names of those desiring to join the classes must be sent in early, it is announced.

The Seventh Pan-American Congress will meet in San Francisco, June 17-21, inclusive. It assembles pursuant to invitation of the President of the United States issued in accordance with an act of Congress approved March 3, 1915.

The formal opening of the James Buchanan Brady Urologic Institute at the Johns Hopkins Hospital took place May 4.

Dr. J. Percy Wade, superintendent of the Spring Grove State Hospital at Catonsville, has just completed 23 years' service at that institution, going in 1892 as assistant superintendent to the hospital and five years later becoming superintendent.

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CANCER OF THE SKIN.

By T. Caspar Gilchrist, M.D.,
Clinical Professor of Dermatology, Johns Hopkins University.

THE keynote to the whole question of cancer is early diagnosis. If this disease were accompanied by severe pains in its earliest stages, the large majority of patients would undoubtedly be cured by modern methods or treatment. It has been said that there are three stages of the disease: (1) when the patient does not know what is going on, (2) when the family doctor is not sure of his diagnosis and in many cases does not suspect cancer, and (3) waiting to decide what to do after the diagnosis is made by the surgeon or specialist. To correct the first the public ought to be trained to seek the doctor early. To correct the second the doctors during their student course should be better trained in dermatology.

The definite diagnosis in so far as skin cancers are concerned ought to be made by the dermatologist, and not by the surgeon, because the former is familiar with other similar affections and the surgeon is not. The majority of practitioners who have come for post-graduate courses in dermatology have generally made the remark that they know less about skin diseases than about any other branch of medicine. The teaching cannot be entirely at fault, because it consists mostly of demonstrations of cases; but a good deal of the weakness of the doctor's knowledge is due to the fact that, instead of attempting to first diagnose the case himself, as he ought to be trained to do, the cases are described and diagnosed by the lecturer, after which the students do not examine the patients thoroughly enough to remember them. Again, enough emphasis is not laid on the frequent demonstrations of the common eruptions, including all the varieties of the early stages of cancer of the skin.

In my experience, I find that the practitioner more frequently thinks first of lupus vulgaris (tuberculosis) as a possible diagnosis of a chronic ulcer, especially of the face, whereas that disease is very uncommon as compared with the frequency of cancer or syphilis.

In commenting upon cancer of the skin, one really cannot do better than present the chief diagnostic points of the various forms of skin cancer and the other common ulcers for which it is mistaken.

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I. *Cancer.* Definition. Cancer is a special new epithelial cell growth which overcomes normal resistance, has a destructive tendency and may form metastases.

Epithelioma. Term usually applied to skin cancers, of which there are two main types: (a) squamous cell, (b) basal cell or rodent. Epithelioma is frequent in middle or old age; usually single lesion; begins in scaly spot, excoriation, fissure, nodule, wart or mole; frequently result of chronic irritation.

(a) *Squamous cell type*—more malignant variety. Often begins as a pinkish or white skin nodule, growing upward and downward; has an elevated, indurated border; has slight viscid discharge streaked with blood (because bleeds easily); surface nearly always crusted and underneath crust, like coarse granulation tissue; new growth more than ulceration when near surface; slow growth and finally often leads to enlargement of nearest glands; situated usually about eyelids, nose or lips; in early stages no pain, later painful.

On Lip. Any persistent localized thickening or abrasion or fissure of several months' duration is very suspicious of epithelioma. Later lesion consists of raised, irregular, indurated growth with coarsely granular and crusted surface; bleeds easly; nearest glands frequently enlarged; microscopically shows pearl nests, which are absent in rodent ulcer.

(b) *Rodent Ulcer* (basal cell). Usually situated about temple, eyelids and nose; superficial; shows very little new growth; apparently healing, then breaking down again; spreads very slowly, with little or no elevated edge; in some stages narrow, pearly-white, roll-like border; ulceration may last years; no glandular enlargement; when invades eye socket, can destroy whole eye; practically painless.

Non-ulcerative Form of Rodent. Has a firm, slightly raised, rolled edge with scarlike atrophic center; very chronic and very slow-growing; section from margin reveals nature of growth.

Treatment. Radium, X-rays, excision when feasible.

II. *Syphilitic Ulcers.* (a) Primary. When extragenital is most frequent on lip; more often in early adult life; rapid growth; short duration (little tendency to active ulceration); markedly infiltrated; nearest glands soon become very much enlarged; later other symptoms of generalized lues become visible; presence of spirochaeta pallida clinches diagnosis.

(b) *Late Secondary or Tertiary.* In middle or late life; frequently on face; two types—(1) nodular: one or more pea-sized and larger superficial ulcers in groups; spreads with serpiginous outline; punched out; raw-ham color; soft scarring; indurated. (2) Gummatous; deep; single; markedly punched out; indurated; necrotic base; discharges freely; bad odor; bone may be involved; painful at night; often superficially punched-out soft scars elsewhere; history of lues.

III. *Lupus Vulgaris.* Commonest form of tuberculosis of skin; rare in United States; begins in early life, rarely after 20

years; peculiar yellowish, large pinhead sized, red, infiltrated macules, points or nodules of soft consistence (probe easily pushed in); most frequent situation on face; very slow course; very chronic; ulcers shallow; scanty discharge; no serpiginous outline; bone rarely involved; scar often dense, thick and tough; often tuberculous history; pressing on margin with glass slide will show presence of pinhead-sized brownish areas; microscopic sections show tubercules in skin.

IV. *Blastomycosis.* Begins as pustule or papulo-pustule; later becomes papillomatous with miliary abscesses around the margin; may spread rapidly; raised, rather soft growth with pus exuding on pressure from between papillae; autoinoculable; often see more than one lesion present; often healing with soft scars. Microscopic examination of pus soaked in liquor potassae will reveal presence of budding doubly-contoured bodies about the size, and larger, of a red blood cell.

V. *Varicose Ulcers.* Usually on lower third of leg; superficial; irregular in shape according to age; callous edge; surrounded by eczematous, deeply-reddened skin; less pains at night; marked varicose veins.

VI. *Staphylococci Ulcers. Infected.* Those not due to above causes; follow bad or neglected treatment or secondary infection of eczema, excoriations, slight wounds, vaccination, pustules, infected granulation, etc.; usually superficial; irregular; painful.

Epithelioma of the Tongue. Usually hypertrophic; no ulceration in early stage; follows leukoplakia, syphilis or dental ulcer; as mamillated tumor; irregular; larger at base than apex; surface more villous than normal; later ulcer on deeply ill-defined nodule; everted border; bloody discharge; most frequent on anterior half and edges of tongue; aged 40 to 60 years; glands enlarged; painful salivation.

Treatment. Excision, radium, X-rays.

If the practitioner is in doubt about the ulcer being syphilitic or malignant, the Wassermann test or internal antisyphilitic treatment will frequently help to clear up the diagnosis. While in doubt about the diagnosis, leave the ulcer alone, or prescribe boric ointment or other mild antiseptic applications. *Do not on any account use silver nitrate or other caustics,* because these usually stimulate the disease and I have seen many cases become very malignant and grow rapidly after such unskillful applications.

FREQUENCY OF CANCER.

In the last 20 years' experience I have come to the conclusion that cancer of the skin has not noticeably increased in frequency, but the efficiency of diagnosis has improved so much that the disease only appears to be more frequent.

Treatment. This varies according to the stage and position of the cancer. During the last six years I have obtained very successful results with the application of radium, especially when the cancer has attacked the lower eyelid, inner or outer canthus

of the eye, various parts of the nose or other parts of the face. The resultant scar is hardly noticeable, the application painless, and with proper screening of the radium no unnecessary reaction is produced. All forms of rodent ulcer can undoubtedly be successfully treated with radium. I have had 16 years' experience with the use of X-rays in the treatment of skin cancers, and have seen very many cures, the most appropriate cases again being those of the rodent ulcer type.

The use of the Coolidge tube has simplified the treatment of malignant growths by increased doses of screened X-rays, which need only be given a few times.

Complete excision of small growths in appropriate places is also good treatment, but surgical procedure is not the proper treatment in beginning epitheliomata of the eyelids and various parts of the nose.

It is now a moot question whether excision, X-rays or radium is the best treatment for early cancers of the lip. Speaking generally, treatment by X-rays in skilled hands has given as good results as surgical procedure, which has the disadvantage of causing much disfigurement. Radium, which is now being given in more intense doses and screened, is now producing excellent results. I have treated numbers of very persistent lesions of lips and tongue, which one could not definitely decide whether they were cancerous or not, but may have been precancerous lesions, with radium with marked success.

SOME FACTS WHICH THE PUBLIC OUGHT TO KNOW.

The main facts to remember about skin cancer are the following:

Cancer of the skin in its very early stage can usually be cured by appropriate modern treatment.

Fifty per cent. of all forms of cancer of various parts of the body usually come to the surgeon or specialist too late. The early stage of cancer is unaccompanied by pain, hence the reason why patient does not seek the doctor or specialist early. The best advice should always be sought.

All ulcers or growths or tumors of the skin are not necessarily cancerous, and the treatment varies according to the diagnosis.

When there is on the lip, especially the lower one, any persistent local thickening or superficial sore or fissure or crack of several months' duration, then it is suspicious of the early stage of cancer. It is very dangerous to irritate such a place by sucking or picking or putting any kind of caustic or paste on, because usually such treatment causes the disease to grow much faster and form "roots," as the public call them.

See the doctor or specialist and find out what is the best mode of treatment for your case.

Another kind of skin cancer begins as a small mole-like pimple which gradually increases in size; is firm and is more dangerous when it is colored (brownish or blackish); later it bleeds easily,

especially when scratched or pinched. It appears to heal, but after a while breaks down again and grows gradually. Soon it begins to have "roots," as lay people call them, which means that the nearest glands become diseased. This can be cured when recognized in its early stage before it has "roots." Another kind of skin cancer begins even more innocently, as in its very early stage it is like a persistent scaly spot, or as if the surface skin had been rubbed off (excoriation), or as a chronic crack, or like a wart or mole. The patient thinks nothing of this, because it looks so innocent, does not hurt at all and now and again it seems to heal and then break out. Such a cancer when near the eye can eat the whole eye out. In fact, if left alone, can destroy both the nose and eyes or attack the ears.

Ordinary moles, whether white or colored, and especially the latter, are becoming decidedly dangerous when they begin to increase in size or get irritated. Generally speaking, when moles are situated in areas which are subject to friction, then they ought to be removed.

So the advice to the public is to seek the doctor or specialist in the early stage of the disease, because the expense of treatment is then very much less and there is a much greater chance of being cured.

TREATMENT OF CANCER BY RADIUM

By Howard A. Kelly, M.D.,
Professor of Gynecology, Johns Hopkins University.

RADIUM, our newest therapeutic agent, is proving to be of the utmost value in the treatment of cancer of all kinds, whether operable or inoperable. Two of the three rays emitted by radium, the beta and the gamma rays, affect the tissues of the body most profoundly, fortunately, however, acting much more potently on the weaker cancer cells than upon the normal cells of the body. No one claims, and no one ever has claimed, that radium would cure all cases of cancer; that erroneous statement was due to the daily newspapers, hunting for something dramatic for their columns.

Radium has, however, won for itself a definite place in cancer therapy, and with time and experience, and above all with increased amounts of radium and newer methods of applying it, its domain over this dread realm will undoubtedly extend from year to year. I include under the broad term cancer, sarcomata, as well as epithelial growths.

Radium therapy is analogous to X-ray therapy, with the striking differences that radium is far more potent and less likely to cause any irritation or injury to the sound tissues. Radium acts more speedily than X-ray; for example, it is the rule to finish the treatment of a fibroid tumor with one or two applications of

radium, while many X-ray treatments are called for, extending over weeks or even months.

At first the question was, "Does radium really cure?" but now that query can be answered positively and in the affirmative after the lapse of years. This fundamental matter has also been set at rest by autopsy made years after radium treatment.

Cancers of the skin are most amenable to radiation. The only obstinate and refractory group of cases here is those which have existed for years and which have been treated by cautery, caustics, etc. Those cases are also obstinate which have invaded the deeper tissues, or which have extended through and involved the mucous surfaces. The most obvious advantages of radium are seen in cancers around the eye, the ear. the lips, the nose, where the healing takes place without mutilation, in marked contrast with exsective surgery. Even where there has been extensive ulceration, there is often a surprisingly good restoration of form.

The entire surgical world has been startled by the results secured so rapidly in treating with radium that hitherto hopeless group—the lympho-sarcomata. Here great tumors, interpenetrating all the anatomical structures of the base of the skull, the neck or the chest, literally melt away in a few days' time. The rays act like myriads of microscopic knives, attacking every individual invading cell, while sparing normal tissues.

Many other sarcomata are also helped in a remarkable manner, but not in such a large percentage of the cases. Epitheliomata of the mouth, tonsils and larynx, especially the basal celled, even in totally inoperable conditions, can be cured in a fair percentage of instances.

A favorable form of cancer is that of the thyroid gland. Thymus growths of the small, round, cell type are often amenable to ray treatment.

Lip cancers yield more and more as our experience grows, but this does not obviate the necessity of a block dissection of the neck.

All breast tumors respond in some measure, the larger medullary form being the most susceptible. The best rule here is operation first when feasible and radiation afterwards.

Cancer of the vagina usually disappears rapidly under radiation.

I am glad to report that cancers of the cervix are among the most amenable to radium therapy, and this remarkable statement holds good not only for the early, but even for the later cases where the disease, though massive, still remains localized.

In nearly 30 per cent. of the inoperable cases the disease has disappeared under efficient radiation with large amounts (400-600 mg.) of radium element. This was true in a group of over 200 of our cases. It is a common sight to witness, too, the disappearance of a growth recurring in the vaginal vault after operation. It is a question for the next three years to settle whether we will continue

to operate on many of the group of cases which melt down under our radium therapy.

Up to the present radium has been used repeatedly to shrink an inoperable growth down and then to operate radically.

Finally, in concluding this brief résumé, let me say that while radium manifestly ought to replace surgery in many instances, and while it does some of its best work in curing cases which surgery has not the remotest hope of touching, yet on the whole there remains a large place for radium combined with surgery, either by following the surgical operation with radiations to reach nests of cells which the surgeon has not been able to eradicate, or to immunize the tissues, or to remove a growth which shrinks but does not disappear, or to treat recurrences. With such a brilliant present, who can declare what the future for this new and most potent agent may be? May we not legitimately look forward to a development as great as that we have witnessed in so short a term of years in the field of X-ray therapy and examinations?

June 1, 1915.

UTERINE CANCER CLINICALLY CONSIDERED.

By T. A. Ashby, M.D.,
Professor of Diseases of Women, University of Maryland.

In uterine cancer, as in all other conditions, there is a beginning. A precancerous stage is suggested by certain local indications, but cannot always be demonstrated by local signs and symptoms. Erosions and lesions on the cervix may attract attention, and neoplasms in the uterus undergoing rapid growth may appear suspicious, but the cancer cell can only be shown by microscopic investigation, and may not be found in these early stages. These local lesions may demand removal apart from the presence of cancer, and the surgeon may in this way anticipate the development of a malignant growth. It is advisable in these cases to act on an assumption and not to wait for later changes.

It is an unfortunate circumstance that cancer of the uterus, as cancer in other organs, is a treacherous condition in its incipiency and presents few symptoms of its early presence.

It may make considerable progress in the uterus before there are reliable symptoms to attract either the attention of the patient or of her physician. Yet, on the other hand, there are indications in the very early stages which should arrest attention and call for a most careful investigation.

A clinical study of uterine cancer will show chiefly two varieties—those which begin in the cavity of the body and those which have their primary development in the canal of the cervix or on the cervical mucosa. There are two distinct families or types which show preference in their origin and a distinct etiological

significance. Their origin seems to depend upon entirely different influences, which, no doubt, account for their location and selection of subjects.

To understand fully the nature of uterine cancer we must divide womanhood into two classes—those who bear children and those who do not bear children. The child-bearing woman is exposed to local lesions in the cervix which are not found in the non-child-bearing class, and it is in these local lesions that we most frequently find a type of malignancy which seems to be influenced entirely by the local condition. Just why this is so the pathologist has not been fully able to explain, unless he admits that a local irritation long existing is an etiological factor.

From the standpoint of the clinician this local influence is so clearly shown that he must admit that an exciting cause is present in the larger number of his cases and he is able to trace the origin of the process to a local lesion.

The malignant type so often found in the child-bearing woman is the epithelioma, which is almost invariably confined to this class, and is, in my experience, seldom found in the non-child-bearing class. The epithelioma first attacks the cervix, and only extends by continuity of tissue to the body of the uterus and adjacent structures. It almost invariably has its origin in an old laceration following an abortion or labor at full term.

A local lesion in some form is present, and from this lesion the malignant growth begins and spreads. The extent of the lesion may or may not have a causative influence, but it is a clinical fact that a very small tear following an abortion may be the nidus for the development of an epithelioma. This has been shown in a case which has come under my care within the past three weeks, where an epithelioma began in a small lesion following an abortion which took place several years ago.

The growth began in the lower cervix and had extended to the junction of the cervix with the body, but had not reached the cavity of the uterus.

Whilst the lesion in the cervix had been of long standing, the malignant growth has been of recent development, as the symptoms have been of short duration. The initial symptom in this case was uterine hemorrhage, which led to an early examination and prompt diagnosis, followed by an immediate operation for the removal of the uterus. The epithelioma was confined to the cervix and had extended up the canal to the internal os. It was possible to do a vaginal hysterectomy and remove, to all appearances, the entire growth, yet future developments must show whether a recurrence will take place.

The epithelioma is a less malignant type than other forms of malignancy, and if removed before it has had time to extend to the adjacent structures a cure may be expected. It extends by direct invasion and only by metastasis in its advanced stages; hence the great importance of discovering the condition in its

very beginning. It is unfortunate that its early symptoms are often overlooked and that the disease may have made extensive progress before it arrests attention. A few years ago a woman came to me for examination for a menorrhagia which had existed only a few months. She was apparently in perfect health and had paid but little attention to the unusual loss of blood during menstruation. There was no pain, no foul discharge and no symptoms to cause her alarm or distress. Upon examination it was found that the epithelioma had completely destroyed the cervix, had invaded the body, and that the vaginal walls were already extensively involved. It was simply impossible to do a radical operation in her case. This is the history of many cases of uterine cancer, and it, no doubt, accounts for the fact that the surgeon is so seldom called to see cancer cases in their primary stages. Whether my own experience corresponds with that of other surgeons I am unable to say, but I feel sure that over 80 per cent. of cases of uterine cancer that have come under my care in the years gone by have been so far advanced that a radical operation was impossible.

Where it has been possible to get the case in the early stage and to do the radical operation the results have been entirely favorable. The mortality in the early stages is practically nothing, and recurrence has never followed at the original site of the growth. This has not only been true in cases of epithelioma, but in the adeno-carcinoma and other types.

As the epithelioma almost invariably begins in the cervix, and is found almost entirely in the child-bearing woman, there is the greatest need of prompt action in diagnosis and in treatment.

The insidious nature of the disease should keep the physician and also the patient on the constant watch for the early symptoms of the disease. It is important to recognize the precancerous stage, if possible, by taking notice of local lesions about the cervix, by a study of the hereditary elements in the given case and by a constant watch on menstrual disturbances.

No one will assume that uterine hemorrhage is always due to uterine cancer, yet it is clearly necessary to act on the assumption that the cause of hemorrhage is a matter for investigation and possibly for operative treatment. Hemorrhage from the uterus is due to so many different causes that we must feel assured that cancer is not present in the case under observation. This assurance can only be established by a careful investigation of the case. We cannot trust to drugs or to an expectant plan of treatment. The observation must be careful, painstaking and direct.

Adeno-carcinoma is, perhaps, the most malignant type of uterine cancer and the most insidious in its origin. There is no precancerous stage that can be recognized. It has its origin in the vast majority of cases in the mucous layer of the uterine cavity. I have never seen a case that did not start primarily in the cavity of the body and then extend to the cervix or to the muscle wall

or adjacent structures. Beginning in the mucosa, it invades the muscle wall and extends by metastasis to the pelvic glands or to neighboring tissues. If discovered before the muscle wall is seriously involved and metastasis has not taken place, the uterus can be removed and a cure effected. A case in point will illustrate this statement.

Nineteen years ago a young woman came under my care with the following history: She was a student of medicine and a very intelligent girl. She had noticed an unusual flow of blood at the menstrual period and consulted a physician, who advised a curettement, which temporarily relieved the excessive flow. After a few periods her menorrhagia returned and a second curettement was done. The scrapings only indicated a catarrhal condition of the endometrium. A few months after the second curettement the menorrhagia again returned. She then came under my care, and I suspected a beginning malignancy and advised a curettement, to be followed by a pan-hysterectomy if the scrapings gave any indication of cancer. I curetted the uterus and found a few scrapings, which, upon careful examination by an expert pathologist, were found to be from an adeno-carcinoma. I promptly removed the uterus by a vaginal hysterectomy. The uterus had not enlarged, but at the fundus a small ulceration of the endometrium had taken place, and a further examination by the pathologist showed a well-marked cancerous condition.

This patient made a prompt recovery and has had excellent health since. It was my good fortune to meet her a few weeks ago in a Southern city, where she has practiced her profession with much success. This is only one of a number of similar cases that have come under my care in time to do the early operation and get a positive cure. I am forced, from a large personal experience and from the experience of other surgeons, to insist upon the fact that adeno-carcinoma, as the epithelioma, is a curable condition if removed in the very early stages. We may hope for the best results in the early operations, for it will be found that recurrences will be rare if the condition is radically removed.

The sarcoma, in my experience, is a rare condition in the uterus. It has a precancerous stage which is not always recognized as such, but has much to do with the infrequency with which it is met. The sarcoma begins as a myoma or fibroma in its physical aspects, and can seldom be recognized in its true nature unless it has assumed an advanced stage. It is more rapid in its growth than the innocent fibroma or myoma. This characteristic feature should arrest attention and lead to a prompt interference. Whatever view we take of the so-called innocent fibroid of the uterus, the growing experience of the surgeon clearly condemns these tumors to the fate of the knife. Whilst often innocent enough in their clinical symptoms, they invite trouble in many ways and lead to much invalidism in many pa-

tients. Surgery presents such a safe and prompt relief for them that few women will consent to carry them through life when assured of the comfort which comes through their removal and possible danger which comes through their presence.

The cause of cancer is little better understood today than in the time of Hippocrates. Whilst great efforts have been made in the past and are now being employed to discover the true nature and influences which give rise to cancer, no satisfactory results have been reached, and we are still in the dark. The many investigations which are now being made may, we hope, ultimately lead to a correct understanding of its etiology, but until this fact is fully established the condition must be considered almost entirely from the clinical standpoint.

The treatment of cancer is strictly surgical, and the best results which have come have been reached through the use of the knife. As unsatisfactory as these results may appear, the failure of surgery can be fully explained, and its satisfactory results can be demonstrated. Experience has clearly demonstrated the fact that cancer is a curable condition if removed in its primary stages. That surgery so often fails is due almost entirely to the fact that the disease has not been recognized and removed in its primary stages when it attacks organs accessible to the knife.

From the clinical point of view the one fundamental fact remains that the early diagnosis and removal of the cancer is the only hope for the patient and the only promise of surgery. Until this fact is generally recognized incurable cases will in the future, as in the past, continue to lock the wheels of surgery.

SOME OBSERVATIONS ON DIAGNOSIS OF CANCER OF STOMACH.

By Thomas R. Brown, M.D.,
and
Ernest H. Gaither, M.D.

Of all varieties of carcinoma, none has been so singularly devoid of successful treatment, medical or surgical, as carcinoma of the stomach, and yet of all classes of malignant disease this is one of the commonest to be met. The correct diagnosis of late cancer of the stomach is, as a rule, not difficult, but at this time curative treatment is absolutely impossible, and even palliative treatment often difficult. It is obviously of paramount importance, therefore, that if we hope for successful treatment, in other words, for early surgical removal before metastasis has begun and extension is marked, it is essential that an early correct or at least probable diagnosis must be made.

It has seemed to us, therefore, very pertinent to discuss in this short article some of the methods brought out in the hope of reach-

ing a correct diagnosis and then discussing our own results in this connection, devoting our attention especially to the value of the study of the soluble proteid contents of the gastric contents as a criterion. It is perhaps not generally known how great is the prevalence of gastric carcinoma, and how large a role it plays in cancer mortality. According to various statistics, some extremely large and running over a long period of years, cancer of the stomach represents from 25 to 50 per cent. of all carcinomata, and according to other statistics these figures are increasing rather than decreasing, probably due, however, to better methods of diagnosis. Until the development of modern surgery gastric carcinoma was obviously of no interest except diagnostically, as cure was out of the question. With the marvelous development of gastro-intestinal surgery and with the possibilities of radium and possibly of various colloidal metals in the destruction of cancer cells, the treatment of cancer of the stomach assumes a much greater significance, although one must admit that with the exception of that group of cases of resection of ulcer, in which the pathological study shows beginning carcinoma, the successful results have been extremely meagre. Of course, there are certain symptoms which should always make us suspicious of gastric carcinoma—the sudden development of dyspeptic symptoms in persons over 40 in whom digestion has been normal up to that time; a loss of appetite, especially to meat, without apparent cause; the change of an ulcer picture from hyperacidity to hypoacidity; the persistent finding of occult blood in the stools with a negative rectal picture and in the absence of signs and symptoms of ulcer or in supposed ulcer after careful treatment—all of these should always make us consider the possibility of an early gastric cancer and weigh very thoughtfully the advisability of exploratory operation, but even in such cases by the time operation is performed the growth has usually reached such an extent and glandular involvement is so probable that a successful issue is extremely doubtful. In this connection the views of Rudolph Schmidt regarding suspicious symptoms are very pertinent:

"1. Unaccountable occurrence after the thirtieth year of gastric symptoms, such as pressure in the stomach, eructations, etc., in an individual previously favored with a healthy gastro-intestinal tract (gastro-intestinal athletes).

"2. Given the same gastro-intestinal individuality, a disproportion between cause and effect in so far as the accused dietetic error gives rise to strikingly stubborn stomach complaints.

"3. Rapid diminution of gastric tolerance in a stomach athlete, e. g., when soon only milk and soup are well borne.

"4. Long duration of occult intestinal hemorrhage in suspected ulcer despite proper treatment with prolonged rest in bed.

"5. As certain forms of gastric cancer begin and continue with the typical subjective symptoms of peptic ulcer, and as the treatment of ulcer will also produce apparent cures in these cases, it will

always be advisable to make the diagnosis of gastric ulcer with reservation. Personally, I consider this reservation especially appropriate in cases where we are dealing with strong individuals previously enjoying good digestive energy between the ages of 40 and 50. Such patients should be warned of the possibility of a malignant ulceration so that they place themselves under continued observation.

"6. Finding of sarcinae in stomach contents or faeces when stomach ailments are of short duration, denoting a rapid development of pyloric stenosis.

"7. Stubborn obstipation in an individual who has been hitherto regular."

Then we must not be deluded by the fact that the patient shows marked improvement under proper rest and dietetic therapy that the case is not one of carcinoma, for this in our experience often occurs in these cases, and frequently for a surprisingly long period of time. A negative point worthy of being remembered is that constant negative findings of occult blood in the stools speaks against cancer.

We must not forget that in many cases of gastric cancer, especially those involving the curvatures far away from either antra, the growth may become extremely large before the development of any symptoms, either local or general, while in other cases the gradation from a previous benign to a malignant gastric condition may be so gradual as to be almost imperceptible. What, then, are the tests which have been found helpful in reaching an early diagnosis of gastric cancer? Many in number, it is true, but lamentably few in results!

Broadly speaking, these tests may be divided into—

1. Those based on the theory that in the growth of the cancer cell a proteolytic enzyme is formed, which will tend to bring about lower products of cleavage of the proteid molecule than normally met with in the gastric contents, these products to be estimated from the study of gastric contents or of the urine, or by the effect of the gastric contents upon special proteids.

2. Those tests based on the theory that in the growth of the cancer cells certain anti-bodies are found in increasing or decreasing amounts in the circulating blood, this being the basis of the anti-trypsin test used very extensively in certain clinics.

3. The discovery of definite signs of gastric ulcer on the basis that this is potentially gastric cancer, and that every correct diagnosis of the former should be followed by surgical removal in the hope of preventing the latter.

4. Tests based on the idea that the gastric cancer in its development will produce certain morphological changes in stomach contour to be made out by radiographic and fluoroscopic studies, the persistence of a filling defect in repeated studies at one point being extremely suggestive of some definite organic lesion, usually carcinoma or callous ulcer, and either warranting surgical interference.

5. Tests based on Abderhalden's principle, which have been carried out rather extensively in certain of the Vienese clinics where emulsions of cancer cells freshly obtained from the pathological laboratory can be so easily obtained.

Of these various methods of testing we have had some experience with the antitrypsin, the glycyltryptophan, Salkowski, Saxl and Saloman, and Gluzinski methods, but none of these has given us such satisfactory results as our experiments with the Wolff-Junghanns test for soluble proteid, a simple clinical method of estimating with comparative exactness the amount of soluble proteid in the acid-free gastric contents. Our experience with the early diagnosis of gastric carcinoma by means of the fluoroscopic examination of the stomach has been almost entirely sterile of results, although as a confirmatory sign in the late diagnosis it has often proved of real value diagnostically, although obviously of slight importance therapeutically. If we wait until the patient is markedly anemic, until loss of weight is extensive, until toxic or obstructive symptoms are found, or until there is a palpable tumor, obviously our diagnosis is only of academic interest in so far as help to the patient is concerned. We have not found the presence of lactic acid or Oppler Boas bacilli of very great importance, as both are found so extensively in achylias of benign nature due to a variety of causes, and especially where there is any pyloric obstruction, and there is no question whatsoever that the absence of lactic acid does not in any way exclude the possible presence of gastric carcinoma. The same may be said in regard to hydrochloric acid; while its diminution or absence is the rule in the great majority of gastric cancers, nevertheless, we have seen cases in which hyperchlorhydria and gastric carcinoma were coexistent.

It has, however, been our experience that the persistence of occult blood in the feces on a meat-free diet, and with the exclusion of other obvious sources of blood, as bleeding gums, typical gastric ulcer, and bleeding hemorrhoids is of really greater value.

The test for the soluble proteid in the stomach is based on the same principles on which most of the tests of the urine or of the gastric contents in this disease are founded, namely, that the cancer cell contains in itself or forms in its growth or destruction or by its action upon contiguous substances, an enzyme definitely proteolytic in nature. This test was first brought out in the *Berliner klinische Wochenschrift* by Wolff and Junghanns, two assistants of Ewald at the Augusta Hospital, and the results of their studies so closely harmonized with the subsequent clinical or operative findings in the cases reported that they seem well worthy of further study by other observers. After being informed through one of us who was returning from Ewald's laboratory of this test, Smithies carried on an extensive series of investigations at the Mayo clinic, and concluded that the test was one of very great value in this connection, his conclusions in full appearing in the *American Journal of the Medical Sciences*. Our experience, while

by no means so extensive, has been sufficiently productive of results to warrant attention being called to it.

From the study of upwards of 200 cases of achylias of various types, some benign and some malignant, the test has been positive in over 80 per cent. of cases subsequently determined to be malignant, and positive in no more than 10 per cent. of cases in which subsequent history showed beyond question that the condition was benign. These figures are certainly sufficiently striking to warrant the systematic employment of this test in all cases in which free hydrochloric acid is absent in the stomach after the Ewald test meal. Unfortunately, the test is obviously not applicable where free hydrochloric acid is still present in the stomach, and therefore in the broader sense is not a test for the very early recognition of gastric cancer, but we know from clinical studies that so many cases show a disappearance of free hydrochloric acid as a comparatively early symptom that we feel that the test is well worthy of employment, and that there is real hope that in some cases, at least, it may result in operation followed by complete removal in a certain if small percentage of cases.

Perhaps it might be of interest in this connection, on the one hand, to describe the details of the test briefly, and, on the other, give a short review of the conditions in which achylia may be met. In regard to the test itself filtered gastric juice after the ordinary test meal is diluted one-tenth, one-twentieth, one-fiftieth, one one-hundredth, one two-hundredth and one four-hundredth, with distilled water, and then there is floated on the surface one c. c. of the reagent, which is simply a solution of definite strength of phosphotungstic acid. A positive reaction is a white albuminous ring at the junction of the two fluids, and this positive reaction may be met with normally in dilutions of 1-10, 1-20, 1-50, while, on the other hand, if it is present in dilutions of 1-200 or 1-400 it speaks very strongly for malignancy.

In regard to achylia it is a loose term, for while really meaning absence of hydrochloric acid, pepsin and rennin, in reality it is usually employed to mean the absence of free hydrochloric alone. Broadly speaking, it may be met with in various inflammatory conditions of stomach, such as catarrh, as an expression of atrophic changes such as we see in the senile and pernicious anemia, due to functional disturbances of the secretory nerves or to some condition causing their reflex inhibition, to a congenital absence of secretion, or to the effect of carcinoma, and here in all probability much more likely due to the toxins produced by the growth of cancer cells than to the direct destructive influences of the cells themselves.

The fact that the use of the various methods described for the early diagnosis of gastric cancer have led to so few cures is no argument that they should not be employed, but rather a suggestion that by widening the scope of these tests and by refining the methods of examination, chemical, physical and biological, we may possibly discover a method by means of which an early diagnosis of cancer is really possible.

CANCER OF THE RECTUM.

By J. Dawson Reeder, M.D., F.A.C.S.,
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In the group of cases which come under the care of the rectal and intestinal surgeon a brief analysis causes him to ponder as to the frequency with which malignant conditions are met and to analyze this apparent increase from two distinct sources. Is the increase due to our being better trained to make such a diagnosis, or is cancer really on the increase when we consider the percentage per population? With our present-day training of students in the clinics and lectures, this subject is being constantly impressed upon them of the importance of a thorough history taking, as well as examination of the patient, assisted by our improved methods and instruments. How many men in our various medical schools up to a very recent date ever had the opportunity of looking through a procto-sigmoidoscope, or had been impressed with the importance of insisting upon the examination of the patient who presented himself with the time-worn self-made diagnosis of internal bleeding piles?

Vital statistics show an alarming increase in the prevalence of carcinoma throughout the civilized world. Williams (*Liverpool Chirurg. Jour.,* 1895) has shown that the disease has increased in England and Wales from 1 in 5646 in population in 1840 to 1 in 403 in 1894. The proportion of deaths from cancer to those from all other causes in 1840 was 1 to 129, and in 1894 it had increased to 1 in 23.

In the city of New York in 1890 the death rate from cancer was 1 to 1679 in population, and in 1900 it had increased to 1 to 1394.

Parke (*Practitioner,* 1899), in discussing this rapid increase in malignant disease in the State of New York, says: "If for the next 10 years the relative death rate is maintained, we will find that by 1909 there will be more deaths from cancer in the State of New York than from tuberculosis, smallpox and typhoid fever combined."

From carefully compiled data from many writers from as many countries sufficient evidence has been accumulated to convince the most optimistic that cancer is increasing. (Tuttle, "Diseases of Rectum and Colon," page 760.)

These facts are especially convincing when we study the increase of malignant degeneration in the rectum and sigmoid. Once cancer is established, it either spreads by direct continuity or is carried to other organs by the lymphatics and circulation. Notwithstanding the fact that the different countries must realize that the mortality from cancer is as great as that of tuberculosis, very little effort is brought to bear by the authorities to give support to a rigid and painstaking investigation. Carcinoma may develop in any part of the body where epithelial cells are found;

such locations as the breasts, uterus and skin are particularly prone, and the investigations of Leichtenstern show that 3 per cent. of all cancers occur in the rectum, and 80 per cent. of all cancers of the intestinal tract are located in this organ. Zemann and Wessenschafter found in 21,624 autopsies at the Vienna General Hospital 1744 cancers. Of these 912 were in the digestive tract, 9 were in the small and 156 in the large intestine. Of the latter 30 were in the sigmoid and 81 in the rectum. Heimann found, of 20,054 patients who died of cancer in the general hospitals of Prussia, 10,535, or over 50 per cent., involved the gastro-intestinal tract. Of these 2910 were in the intestine, 1204 being confined to the rectum. From these and other figures one must conclude that cancer of the rectum and sigmoid form a larger percentage of the sum total than is generally admitted.

The question of heredity is firmly grounded in the popular mind, and the unusual number of cancers seen in recent years in young people certainly adds color to this belief, especially as to the predisposition, and no doubt many cases are more thoroughly examined when such a history is obtained as it more prominently suggests itself as one of the possibilities to be eliminated by careful and painstaking examination that might have otherwise been passed over.

In my judgment, too much stress cannot be laid upon the symptoms of early cancer, and personal experience in this line has been a very sad chapter. I have endeavored to get complete histories of 22 cases of cancer, which I have diagnosed, covering a period of five years. I have written either to the family or the physician who sent them for diagnosis, and it is sad to relate that 21 of the 22 cases are now dead. This list, of course, is a record of cases that I have been asked to proctoscope either in the wards of the hospital or have been brought to my office by their physician for proctoscopic diagnosis, and in most cases was simply done to have their diagnosis confirmed. In justice to my report, I must add that these cases were well defined when examined, and the great majority were, in my judgment, inoperable at the time. This only serves to emphasize the importance of the early recognition of precancerous symptoms by both physician and patient. No rectal distress of the mildest character should be allowed to leave one's office without a satisfactory examination, as many a case of internal piles has been so treated, and the patient, who might have been helped, has been sent to an untimely grave.

The fact that the first symptoms of cancer may be a vague discomfort in the pelvis, symptoms of intestinal or gastric indigestion, constipation or colicky tenesmus, with or without the passage of blood or mucus, emphasizes its importance. It is not sufficient to examine with the finger three or four inches of the rectum, and if found normal to exonerate the rectum and sigmoid from any part in the train of symptoms, but a proctoscopic examination is always necessary before one can eliminate these organs.

In the active or proliferative stage the symptoms are more marked. In scirrhus or annular carcinoma gradual increasing constipation is a typical symptom; there may be colicky pain in the stomach or upper portion of intestine, and in some instances cutting pain at the seat of the growth. As a rule, however, pain is not a prominent symptom at the early stage of the disease. A slight mucous discharge slightly tinged with blood causes discomfort from accumulated gas. As the growth increases the lumen is encroached upon, obstruction to fecal passage more marked and blood becomes more profuse.

The adenoid or medullary cancer presents a different picture, as the chain of symptoms will be constipation, as a rule, not one of its features; on the other hand, there is a constant desire to go to stool, in which gas, small amounts of mucus, with or without blood. These calls range from 8 or 10 to 20 calls a day and as many at night. I have the record kept by a patient for one week, and at no time in the 24 hours did he find he could go longer than three hours without having to go to the toilet. The most noticeable feature of his record is that these urgent desires began about 2 A. M. and increased up to about midday. The patient persisted with the treatment outlined for about two months from my first visit, and finally died of exhaustion in less than three months. It is of interest to note that his mother and one brother died of the same condition, presenting about the same symptoms at about the same age, which was 52 years. In the medullary type the symptoms are more severe, pain is greater, discharge more profuse and loss of flesh more rapid. Digital examination presents an ulcerated mass, well-defined edges surrounding a deep crater-like cavity. The later stages of cancer are too well defined to present here, as well as the pathological subdivisions into which cancers are divided.

In presenting this subject no attempt has been made to discuss cancer from the etiological or pathological side, but an humble attempt is here made to quote authorities on the cardinal points that should be constantly before us in making a diagnosis on patients presenting suspicious symptoms.

As to operative measures in cancer of the rectum, no set rule can be made, and I think this also holds good as to the surgeon selected to perform such. Knowledge of the various operations advised, dexterity—call it luck if you will—certainly seems to play a rôle in a series of cases. While various operators are performing the same methods, with the same amount of skill and knowledge, there are very few who can truthfully boast of the enviable record of the late Dr. James P. Tuttle, and, perhaps, it will be pardonable if I be permitted to quote a few statistics from his wonderful report of 100 cases published in the *New York Medical Journal,* 1908:

"In this report (copyright, 1908, by A. R. Elliott Publishing Co.), which covered a period from June, 1892, to February, 1908,

the total number operated upon was 108 (eight lost in the Polyclinic fire).

"The total number of deaths (immediate) from 100 operations was 13, a mortality of 13 per cent. The known recurrences which we know will or have already ended in death are 24. The number of patients known to be living and free from disease, 41. This leaves 24 unaccounted for who have gone broadcast over the world, who may or may not have had recurrence. They were all free at last observation, covering a period of from three months to five years.

Type.	Recoveries.	Deaths.	Recurrences.
Epithelioma	4	0	0
Sarcoma	6	0	3
Papilloma	2	0	0
Scirrhus	2	0	0
Colloid	2	0	0
Adeno-carcinoma	84	13	21

Location of tumor and its influence on death and recurrence:

Site.	Recoveries.	Deaths.	Recurrences.
Under 1 inch	11	0	6
1 to 2 inches	8	0	4
2 to 3 inches	7	1	2
3 to 4 inches	16	1	4
4 to 5 inches	12	4	2
5 to 6 inches	9	0	1
6 to 7 inches	10	3	2
Above 7 inches	14	4	2

Character and technique of operations done, including Kraske (2 Kochers).

	Number—6.	Mortality—33%.
Bone flap	25	16%
Perineal	40	5%
Vaginal	3	....
Combined	8	37.5%
Abdominal	9	11%

"Kraske, including two Kochers, presents a very discouraging aspect. The high mortality here is accidental and does not afford a fair estimate of the method.

"The bone-flap method shows a mortality of 16 per cent.—more encouraging, but not what it should be with our present-day asepsis."

Perineal method is by far the most encouraging, and, after a discussion of the various methods, Dr. Tuttle explained in a most liberal and fair manner the causes of death, and in some instances taking the blame for some fault in technique.

A hypernephroma of the kidney may be mistaken for a tumor of the colon, but the presence of blood in the urine and a cath-

eterization of each ureter should be sufficient to differentiate this condition.

Actinomycosis of the bowel may be mistaken for cancer, but in 60 per cent. it is confined to the appendix and cecum.

Ulcerative tuberculosis may be mistaken for carcinoma, but when we recall that a primary lesion of the colon is so rare, and the diagnosis may be clinched by the physical examination of the chest, we are never justified in making such a diagnosis by proctoscopic findings. As to the bacteriological findings, I have repeatedly made the statement, which has always opened a discussion, that the average pathologist associated with hospital laboratories is not capable of differentiating the tubercle, smegma and hay bacillus, even with full knowledge of the acid-fast staining qualities. Lypomatous and fibromatous tumors of the rectum are slow in their growth and do not produce systemic disturbances, as cachexia or metastasis, until very late. Syphilis should be differentiated by microscopical findings.

Multiple adenomata and papillomata are very prone to malignant degeneration, and the examination of a single tumor has been shown to be benign on one side, while the other side of the same tumor had already undergone malignant degeneration. This should always be kept in mind when removing fragments of these tumors for microscopical examination.

Exploratory laparotomy is always justifiable in cases of cancerous involvement of the upper portion of the rectum for the purpose of ascertaining the nature of the growth, its involvement and possibility of removal. In early stages this procedure is practically without danger.

References.

Tuttle, "Diseases of Rectum, Anus and Colon."
Gant, "Diseases of Rectum, Anus and Colon."
Tuttle, "Report on 100 Cases of Cancer." (A. R. Elliott Publishing Co.) Copyright, 1908.
Lusk, "Surgery, Gynecology and Obstetrics."
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Book Reviews.

INTERNATIONAL CLINICS. Edited by Henry W. Cattell, A.M., M.D., Philadelphia. Volume IV. Twenty-fourth Series. 1914. Philadelphia and London: J. B. Lippincott Company. $2.00.

One hears and sees so much in the daily press these days of accounts of the twilight sleep in obstetrical cases. It is, therefore, indeed opportune to have an authoritative article on this subject from Daniel Longaker, M.D., of Philadelphia, obstetrician to the Jewish Maternity Hospital. As the subject is demanding so much

attention, we will quote liberally from his article. Like the author, we fear the overpublicity of this method of securing painless labor will be so exploited that it will fall into disfavor. Morphine and scopolamine and morphine and hyoscine have been employed to induce unconsciousness for surgical operations long ere these combinations were thought of for obstetrical practices. When first introduced for the first-named purpose they were wildly proclaimed as the coming method for rendering a patient insensible to pain during operation. Their use was declared to be without danger to the patient, but did such prove to be the case? By no means, so that today they are practically never used in surgical operations. Undoubtedly there are instances suitable to their employment. We fear the same hysteria is grasping the public and the profession concerning their use in child-birth. A reaction is sure to come, and when it does, it is liable under the present circumstances to be as pronounced as that in operations. It is not a unique experience to be called to a patient for an operative delivery when the immediate results for both infant and mother are infinitely better served by delay. The one supreme element to ovrcome many a case of dystocia is time. But to secure this necessary time in the face of personal, family and sometimes community hysteria is no easy matter. Attending physician and even consultant often yield unwisely to the demands of the patient and friends, and thus an attempted early operative delivery ends either in failure, in serious or even fatal injury to the child, and in physical trauma to the woman herself. A delay of four, six, eight or more hours, as a rule, converts such apparently difficult cases into the simplest possible, from a mechanical point of view—the question of high forceps operation becoming the easiest low forceps, feasible even in the hands of the tyro. The author then goes into the technic, causes of failure, and dangers of drug narcosis in labor. The article is, while conservative, a fair presentation of the subject. Besides this article there are a number of others on burning topics of the day.

The Curative Action of Radium. By Sigm. Saubermann, M.D., of Vienna and Berlin. Fifty pages, with 35 half-tone illustrations. Published by Radium Limited, U. S. A., 25 West 45th street, New York, N. Y.

Dr. Saubermann is one of Europe's greatest authorities on the Radium Emanation Therapy, and in this booklet he voices the results of his research work covering a period of over 11 years. It is of great interest to all physicians desirous of using radium emanation in treating those diseases which it influences. The 35 illustrations contained are in all probability the first of their kind ever shown in this country, and demonstrate clearly the effects of the rays and emanation of radium. The booklet will be sent free to our readers on application to the publishers by mentioning the name of the Maryland Medical Journal.

A Textbook of Surgical Operations. Illustrated by Clinical Observations. For Physicians and Students. By Fedor Krause, Privy Medical Councillor, Directing Physician Augusta Hospital, in Association with Emil Heymann, M.D., Chief Physician Augusta Hospital. Translated into English and Edited for American Readers by Albert Ehrenfried, A.B., M.D., F.A.C.S., Assistant Visiting Surgeon, Boston City Hospital; Surgeon, Boston Consumptives' Hospital; Assistant in Surgery Harvard Graduate School. In Six Volumes. Volume I. With fifty-five plates having two hundred and thirty-three illustrations in two or more colors and sixty-one figures in the text. New York: Rebman Company. 1915. Cloth, this volume, $6.00 net.

This volume is an exposition of the Krause method of presenting operative surgery, and includes such topics as preparation for operation, anesthesia, asepsis, after-treatment, treatment of wounds of the head, extirpation of tumors in the tissues of the face, plastic operations on the face, surgery of the eye and orbit, surgery of the ear, nose and accessory sinuses, of the trifacial nerve, including extirpation of the Gasserian ganglion. The light thinker would hastily jump at the conclusion the English-speaking peoples need no new operative surgery, as they are already supplied with an overabundance of books of this character of the highest merit. Such is to some extent the truth, but Krause presents the subject in a manner peculiarly his own. Besides, he is the devisor of so many practices in surgery that their receipt first hand is no light consideration. This volume approaches the subject in a novel way, viz., the presentation and discussion of actual cases, which are carefully followed from the beginning, through the operative procedure to the end result, thus in a way being a word picture of the text.

Krause is the foremost European proponent of the general surgeon instead of the specialist. He believes that the surgeon who confines himself to a specialty becomes lopsided. His efforts, therefore, have embraced every aspect of surgery, including the surgical specialties. One may believe this impossible of accomplishment by one man, but Krause has proved otherwise. He is a recognized surgical authority, whose writings are eagerly sought after by Europeans. We Americans are indeed fortunate to have presented to us in our own tongue the experience, investigations and deductions of Professor Fedor Krause.

Lectures on the Heart. By Thomas Lewis, M.D., F.R.C.P., D.Sc., Physician City of London Hospital; Assistant Physician and Lecturer in Cardiac Pathology, University College Hospital, London. Illustrated. New York: Paul B. Hoeber. Cloth, $2 net. 1915.

This little monograph consists of a welding of the Herter Lectures, delivered in Baltimore at the Johns Hopkins University, a

Harvery Lecture, New York, and an address to the Faculty of Medicine at McGill University, Montreal. The whole tenor of the monograph consists in an emphasizing of the importance of combining the laboratory with the clinical findings. Vast strides have been made in the diagnosticating and treatment of heart affections during the past few years. Much of this advance is due to laboratory methods applied to clinical findings. The refinements in cardiac diagnosis have therefore assumed sufficient importance to demand a separation of those methods strictly laboratory and those of practical utility. Dr. Lewis has succeeded admirably in bringing those laboratory methods of practical value into association with the clinical in the above-mentioned monograph. So much so, in fact, that every practicing physician, if he desires to keep abreast of the times, should possess the book. In it he will find many helpful suggestions and hints.

The Clinics of John B. Murphy, M.D., at Mercy Hospital, Chicago, April, 1915. Vol. IV, No. 2. Philadelphia and London: W. B. Saunders Company. Baltimore: The Medical Standard Book Co. Published Bi-Monthly. Paper, $8 per year.

This number is rendered additionally valuable by a contribution on carcinoma of the breast by Dr. William L. Rodman of Philadelphia. It is well illustrated, and gives a thorough description of his technic for breast amputation. Other sections on live subjects are bony lipping of the right acetabular margin and of the neck of the femur following a metastatic arthritis, arthroplasty of the hip, carcinoma of the colon, diffuse miliary carcinosis of the peritoneum, epithelioma of the upper lip starting in an old lupus scar, excision, plastic closure, Murphy's clinical talks on surgical and general diagnosis, etc. Again the surgical profession is given a fine treat. But what's the use of further comment? Every one now thoroughly realizes the Clinics are invaluable to the surgeon.

International Clinics. A Quarterly devoted to Clinical Lectures and Original Articles. Edited by Henry W. Cattell, A.M., M.D., Philadelphia. Vol. I. Twenty-first series. Philadelphia and London: J. B. Lippincott Company. 1915.

By this time our readers are thoroughly aware of the scope of International Clinics. Therefore, it is useless to devote any space to this aspect of the quarterly. As in its predecessors, so here we find a number of articles of more than the usual merit, amongst which may be mentioned that of "Remarks on the Diagnosis of Polycystic Kidney," by Sir William Osler; "Autoplastic Bone Transplantation," by V. A. Lapenta; "Routine of Practical Vaccine Therapy," by Horace Greeley, etc. The literary and scientific diet contained therein is sufficient and enough for the most fastidious and varied appetite.

MARYLAND MEDICAL JOURNAL

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A. SAMUELS, M.D.

BALTIMORE, JULY, 1915

THE CANCER PROBLEM.

As a part of a nation-wide movement against cancer, the MARYLAND MEDICAL JOURNAL is devoting the entire space of its reading pages of this issue to the various phases of cancer; to what has been done in the past for its control, and what may be expected of the future. It makes no difference whether any particular reader subscribes to the belief that cancer is an infectious disease or whether it is due to misplaced cells, the scourge has become so manifestly on the increase that some plan of action must be evolved for its conquering. A great deal of work has been done in educating the public and profession during recent years as regards the recognition of cancer in its earliest stages and what can be expected from medicne and surgery. So far as the writer is concerned, the knife holds out the only hope of permanent cure. By knife is meant such surgical procedure as the electro-cautery, thermo-cautery, radium, etc., all of which aim at extirpation of the growth. These procedures, to be effectual, however, must be employed early in the course of the neoplasm, otherwise the chances for effecting a permanent cure become more remote. It is this lesson that the profession must drive home to the laity, if any advance is to be made in the elimination of cancer as a human scourge. This is especially true in the present unsettled state concerning the etiology of malignancy. This uncertainty as regards the agent producing cancer even leads progressive members of the profession to advise the extirpation of benign growths in certain localities which are particularly prone to cancerous involvement. For instance, it is a surgical maxim that a lump in the breast, what-

ever its character, should be removed as soon as recognized in order to forestall a possible cancerous degeneration. So in ulcer of the stomach the advance teaching is its removal if possible, as at least 60 per cent. of cancer of the stomach originate in the scar of an old ulcer. The gynecologists preach that excessive or prolonged so-called menstrual discharges in a woman after middle age should direct attention to the possibility of beginning cancer and the proctologist that bleeding from the rectum should not be passed lightly by, but a careful examination, digital, if no other apparatus be at hand, should be made. Until the etiological factor of cancer is discovered, the only hope held out for the reduction of the cancer mortality is earlier recognition of the distemper and prompt surgical intervention. Until more refined methods are evolved for the detection of cancer the profession and the laity must be constantly impressed with the fact that cancer on the surface as well as in the interior of the body always originates in some pre-existing lesion. It must be the constant aim of the profession to perfect means for the earlier recognition of these precancerous lesions, so that they can be removed before cancer has set in. At present this plan offers the best solution to the apparent or real increase in cancer mortality. The next best plan is a thorough education of the public in the symptomatology and accepted lines of treatment of cancer. Intelligent co-operation between the laity and the profession undoubtedly can to a large extent solve the cancer problem. A properly-educated public would make impossible Wainwright's citation of his experience in the last three malignancy victims seeking his advice. One was of a patient who neglected to seek medical advice when the early minor symptoms appeared; the second, of a patient who had been advised by the physician to wait; the third, that of one who had been correctly advised and refused to undergo the treatment. All three cases are now hopelessly doomed; the first by ignorance, the second by incompetence, the third by fear or neglect.

This tells the story of the cancer fight. All three could perhaps have been saved by timely treatment. Yet initial prudence on the first patient's part would have been of no avail had she gone to No. 2's physician, nor would greater knowledge on the physician's part in No. 2's case have availed had the patient refused to profit by it as No. 3 refused.

Medical Items.

Dr. Joseph C. Bloodgood left June 1st for a 10-day trip to Minneapolis and other points in the West.

Dr. William S. Thayer, professor of clinical medicine at Johns Hopkins Medical School, who was operated on recently for appendicitis, is convalescing nicely.

Dr. Thomas S. Cullen was operated on recently for gallstones and appendicitis. He is improving steadily.

Dr. Burns S. Chaffee, Baltimore, will become resident physician of the Union Protestant Infirmary, succeeding Dr. Edwin G. Davis, Baltimore, when changes in the hospital staff take place this summer. Dr. Davis will remain as a member of the staff. Dr. Chaffee has been connected with the institution for several years.

Prof. Thomas L. Patterson of the University of Maryland Medical School, has accepted the position of assistant professor of physiology in the medical faculty of Queen's University, Kingston, Ontario.

The Thomas Wilson Sanatorium, the life-saving station for sick babies during the summer, opened June 15th, for its regular three months' work of caring for children with hot-weather ailments. Thirty tiny babies were admitted the first day. The institution is situated at Mount Wilson, about ten miles northwest of Baltimore city. Dr. J. H. Mason Knox, Jr., is in charge of the sanatorium.

Dr. Henry J. Berkley, Baltimore, has been appointed a member of the State Lunacy Commission to succeed Dr. John D. Blake, Baltimore.

Dr. Otto V. Huffman, secretary of the New York State Board of Medical Examiners, has been elected secretary of the faculty and executive head of Long Island College Hospital, Brooklyn, in succession to the late Dr. Joseph H. Raymond. Dr. Huffman is a native of Dayton, Ohio, is 33 years old is a graduate of Denison University and the College of Physicians and Surgeons of Columbia University, 1903.

Dr. David K. Henderson, for the last three years resident physician at the Phipps Clinic of Johns Hopkins, has resigned and is now on his way to Glasgow, Scotland, to take charge of the Royal Asylum there.

Dr. Roscoe W. Hall, who has been serving as assistant to Dr. Henderson, has been made resident. Dr. Hall is a 1912 Hopkins Medical School graduate. Another Hopkins man, Dr. Charles B. Thompson, has been promoted to Dr. Hall's place.

Dr. Henderson had been chief assistant to Prof. Adolph Meyer, psychiatrist, since the opening of the Phipps Clinic, and is considered an authority on brain disorders. His new post is not believed more important than his position at the Phipps Clinic, but is supposed to be more attractive to him because he himself is a graduate of the University of Edinburgh.

Dr. William H. Welch left Baltimore June 30th for China, where he will join Dr. Frank J. Goodnow, and with Dr. Simon Flexner, Dr. David Moon Robinson and Dr. Wallace Buttrick, will undertake the great work of systematizing the medical education of that country. Dr. Welch will go direct to San Francisco and will said on July 5th for China, stopping at Honolulu for a short time. The others will not go until a month later.

Through the beneficence of Mr. and Mrs. Morton Samuels, as a memorial to Mrs. Samuel's parents, the Hebrew Hospital will have another handsome and substantial building added to its group. The building will be for a general dispensary.

Dr. George H. Hocking, Govans, Md., has been appointed a member of the Maryland State Lunacy Commission, to succeed Dr. Thomas H. Brayshore, Glenburnie, whose term of office has expired.

BIRTHS.

To John William Robertson, M.D., University of Maryland Medical School, '09, and Mrs. Robertson, of Onancock, Va., May 30, 1915, a daughter—Elizabeth Sue Robertson.

To Humphrey William Butler, M.D., University of Maryland Medical School, '13, and Mrs. Butler, of Canhotinoho, Brazil, S. A., in April, a daughter.

MARRIAGES.

Francis Peyton Rous, M.D., Johns Hopkins Medical School, '05, to Miss Marion Eckford De Kay, both of New York City, at New York, June 15, 1915. Dr. Dous is a member of the staff of the Rockefeller Institute for Medical Research.

Norbert Charles Nitsch, M.D., University of Maryland Medical School, '13, to Miss Ethel Marie Katzenberger, both of Baltimore,

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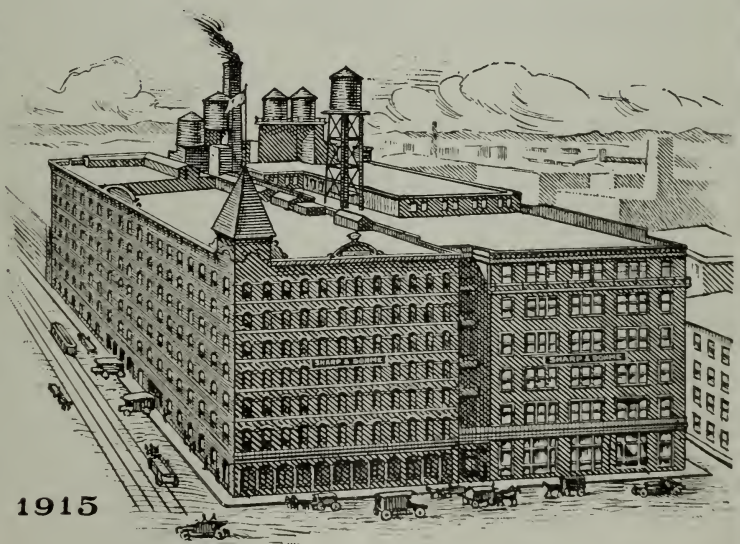

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THE OAK

Md., at Baltimore, June 23, 1915. For the past two years, Dr. Nitsch has been resident physician at St. Agnes' Hospital, which position he has resigned to take up active practice.

Walter S. Niblett, M.D., University of Maryland Medical School, '11, to Miss Ethel Wolfe, both of Hillsdale, Md., at Hillsdale, Md., June 9, 1915. Dr. Niblett was formerly superintendent of the Kernan Hospital for Crippled Children.

Cranford Haywood Douthirt, M.D., University of Maryland Medical School, '14, to Miss Lydia Isabelle Reid, both of Baltimore, Md., at Towson, Md., June 2, 1915. They will reside at Roaring River, N. C.

Henry Latimer Rudolph, M.D., University of Maryland Medical School, '02, of Gainesville, Ga., to Miss Annie Louise Pagett, of Atlanta, Ga., at Atlanta, June 2, 1915. Dr. and Mrs. Rudolph will reside in Gainesville.

Harvey K. Fleckenstein, M.D., Physicians and Surgeons, '04, of Baltimore, Md., to Miss Isabella Griffith, at Retirement, near Gaithersburg, Md., the country estate of the bride's parents, June 12, 1915.

Lewis Kyle Walker, M.D., University of Maryland Medical School, '11, of Ahoskie, N. C., to Miss Grace Belle Stoneham, of Monaskon, Va., at "Maidley," Monaskon, May 26, 1915.

Alexander Randall, M.D., Johns Hopkins Medical School, '07, formerly of Annapolis, Md., to Miss Edith Kreedler, of Philadelphia, Pa., at Chestnut Hill, Philadelphia, June 2, 1915.

George Ward Disbrow, M.D., University of Maryland Medical School, '13, of Newark, N. J., to Miss Virginia W. Sprecher, of Sykesville, Md., in Washington, D. C., May 23, 1915.

DEATHS.

Robert Dorsey Coale, M.D., University of Maryland, '12; Ph.D. Johns Hopkins University; for many years dean of the medical school of the University of Maryland; colonel of the Fifth Infantry, M. N. G., during the Spanish-American War and from 1886 to 1909 an officer of that regiment, died in the University Hospital, Baltimore, May 18, 1915, from cerebral hemorrhage, aged 57 years.

James Alfred Faffney, M.D., Baltimore, (Md.) University, '98, died at his home in Bridgeport, Conn., April 26, 1915, aged 39 years.

Niles Harrison Shearer, M.D., University of Maryland Medical School, '66; a member of the Medical Society of the State of Pennsylvania and American Academy of Medicine; surgeon of volunteers during the Civil War; a druggist and financier of York, Pa., died at his home in that city, May 5, 1915, aged 73 years.

David Ballantyne Anderson, M.D., Johns Hopkins Medical School, '13, of Salt Lake City, Utah; an intern in Mount Sinai Hospital, New York City, was accidentally drowned during a heavy windstorm while canoeing on Lake George, May 26, 1915, aged 27 years.

J. H. Turner, M.D., University of Maryland Medical School, '40, of Martinsville, Va., died at his home, April 1, 1915, from senile debility, aged 89 years.

James Belt Chesley, M.D., University of Maryland Medical School, '68, of Forest Glen, Md., died at his home, April 7, 1915, aged 71 years.

William H. Siple, M.D., College of Physicians and Surgeons, '90, died at his home in Petersburg, W. Va., April 4, 1915.

Frank Huske Holmes, M.D., University of Maryland Medical School, '95, of Clinton, N. C.; a Fellow of the American Medical Association, died in a sanatorium in Asheville, N. C., April 18, 1915, aged 45 years.

Jefferson D. Wright, M.D., University of Maryland Medical School, '82; a physician and druggist of Louisville, Ga., died at his home, April 14, 1915, aged 54 years.

Sherman Voorhees, M.D., College of Physicians and Surgeons, '93, formerly a Fellow of the American Medical Association and of the American Academy of Ophthalmology and Oto-Laryngology, and a specialist on diseases of the eye, ear, nose and throat, of Elmira, N. Y.; surgeon to the Arnot Ogden Hospital and local ophthalmologist for the Pennsylvania System, who was seriously injured in July, 1914, in an automobile accident, died from his injuries at the home of his sister in Brooklyn, May 1, 1915, aged 48 years.

Ira R. Wetherill, M.D., College of Physicians and Surgeons, '81, a practitioner of Bluffton, Ind., for twenty-five years, died in a sanatorium in Marion, Ind., April 21, 1915, aged 61 years.

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FRACTIONAL GASTRIC ANALYSIS AND GALL-STONE DISEASE.*

By Albert Hynson Carroll, M.D.,
Associate in Gastroenterology, University of Maryland.

THE constant efforts to discover new methods of diagnosis and to improve the old ones is nowhere more evident than in the field of gastroenterology. A field in which the objective and subjective symptomatology must always play the most important rôle, but in which we have come to depend largely upon information which can only be obtained from special methods. It is at once evident that these must measure up to a high standard, and to do this they must be founded upon an accurate knowledge and sound scientific principles. They must be practical and at least fairly constant in the results if these results are to form the basis for diagnostic conclusions. If a new or an old method which has been broadened and developed is to attain its full usefulness, more must not be claimed or be allowed to be claimed for it than is justified.

With the "single test-meal" as a basis, Rehfuss has developed the art of gastric analysis, and has given us the technique for "fractional gastric analysis." In view of the discoveries which have followed its use, we are now made aware of the inadequacy of the older procedure and of the practically negative value, from a diagnostic standpoint, which is afforded by the examination of single specimens of gastric contents. Much light is thrown upon the causes of a lack of definite relationship between the "test-meal findings" in the past and definite pathological gastric conditions. For the first time we have known what is *normal during the entire digestive cycle,* and we are now in a position to approach the study of the abnormal.† In the future we will base our conclu-

*Read at the annual meeting of the Medical and Chirurgical Faculty of Maryland, April 28, 1915.

†Martin E. Rehfuss, *Jour. A. M. A.*, Feb. 13, 1915: "Gastro-Intestinal Studies;" also *Amer. Jour. of Medical Sciences,* June, 1914.

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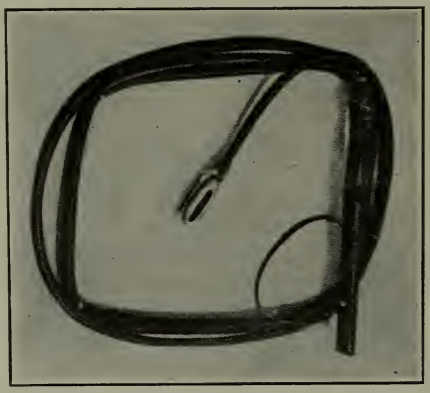
sions upon the results obtained from investigations which have been scientifically conducted, and not, as in the past, upon a method which was incomplete and represented only what the functional activities of the stomach were at one period of the digestive cycle. With "fractional gastric analysis" the functional or enzymic capacities of the stomach can be traced from the first to the last stage of digestion.

METHOD.

The method consists of the withdrawal of test-meal specimens at regular and definite intervals after the meal has been ingested. The apparatus used consists of a modification of the Einhorn duodenal tube. It differs in as much as Rehfuss has designed a somewhat larger and heavier longitudinally-slotted bulb than the Einhorn tip, and the slender rubber tube is slightly greater in diameter. The added size of the bulb does not interfere with



THE REHFUSS TUBE FOR FRACTIONAL GASTRIC ANALYSIS.
(After Rehfuss.)

swallowing it, and the greater weight tends to keep it at the lowest portion of the stomach.

With this tube any portion or all of the gastric contents can be readily aspirated at any time. The tube does not cause inconvenience, and may be left in place for hours. When digestion is completed, or at any other time, the tip may be allowed to pass the pylorus and duodenal contents secured for study.

Upon examination of the specimens for free and total acid, blood, bile and character of food residue, a curve can readily be plotted which will graphically represent the digestive cycle under investigation. We have a picture which represents the functional activities of the stomach, which is just as luminous and full of surprises as are the X-ray serial or cinematographic pictures of the bismuth-laden stomach, as demonstrated by Lewis Gregory Cole. Cole gives us a picture of the *mechanics* of normal and pathological gastric conditions, while Rehfuss has furnished us the technique of a method for demonstrating the *functional* activities.

TECHNIQUE OF THE METHOD.

1. The patient is given a plate of well-boiled rice at 9 P. M. the night previous to the examination and what water he may wish at this time, but nothing more to eat or drink until the examination has begun.

2. At 9 A. M. the "bulb" is placed well back on the tongue and the patient directed to swallow it. There is seldom retching or coughing, events to be avoided because of the possibility of a return of neutralizing alkaline duodenal contents through the pylorus.

3. The gastric content is now aspirated and examined for acidity, blood, bile and starch particles. Iodine may be used to stain these and render them visible either to the eye or under the microscope. The bulk of the contents is noted also. This may vary normally from 20 to 100 c. c.

4. A definite amount of water is then given the patient to drink, and for the first 15 minutes specimens are aspirated each 5 minutes, and thereafter at 10 or 15-minute intervals until the stomach is empty or the acidity becomes constant. An acid curve is plotted from the findings in each specimen secured.

5. The tube is withdrawn and a small piece of toast and 10 or 12 ounces of tea are given. The tube is reintroduced and fractional specimens obtained, exactly as in the "water meal." These are studied for free and total acid, blood, bile, mucus and food residue. Again a curve is plotted, which should show also the time of appearance of pain, if such is the case, of the discovery of blood or bile, and of the disappearance of food from the stomach.

It is well to use only small specimens, and to titrate with 1/100 normal NaOH. Care must be used not to create a vacuum in the tube, as the suction may cause the appearance of blood from the mucosa. The patient will be more comfortable in bed, but the procedure may be carried on as well with the patient in a chair. Care must be taken not to allow too great a length of tube to enter the stomach, as in that case the bulb may pass into the duodenum. After each aspiration a little air may be passed into the tube to prevent contamination of the following specimen with contents of an earlier stage of digestion. The withdrawal is facilitated by telling the patient to swallow just as the tube tip is leaving the oesophagus.

Many discoveries have been made and reported by Bergeim, Hawk and Rehfuss regarding the normal secretions and the influence upon the gastric functioning by various stimulants. It may be well to mention a few of these:

First.—Water, when introduced into the stomach, is a great stimulant to secretion of gastric juices. It will cause as intense a flow as pure beef juice. A definite "water curve" for the individual can be recognized, and this is similar to a mixed-diet digestion curve.

Second.—The HCl content or percentage, in terms of 1/10 normal NaOH, is far higher than was formerly known.

Third.—When water is ingested during a meal, the first result is a dilution, with a lessened HCl percentage. This is almost immediately followed by an increased secretion of HCl. The water leaves the stomach almost at once, while the undigested food remains behind.

Fourth.—The high point in the HCl secretion in normal persons is usually found at the expiration of 60 minutes or thereabouts, but in pathological cases this may occur either many minutes before or long after the one-hour period.

(With these few observations in mind, the rational of the newer method of gastric content analysis will be emphasized, and the errors which are ever present in the "single test-meal" examinations are more clearly comprehended.)

Fifth.—All normal persons exhibit digestion curves which can be grouped into three great classes.

THE THREE GREAT NORMAL CLASSES.

Normal curves fall under the following three great headings: (1) The "Isosecretory," (2) the "Hyposecretory," (3) the "Hypersecretory."

The "isosecretory" type shows a steady rise to a high point of 60 degrees, in terms of 1/10 normal NaOH. It is usually sustained ½ to 1 hour, and then begins a gradual decline, with a total disappearance of food residue in 2 to 2½ hours. Its high point or "acme" is rounded; the curve is not broken.

The "hyposecretory" type is similar to the first, but there is usually a slower ascent, a slower response to stimuli, a high point of 40 to 50 degrees. Digestion is usually completed in 2 to 2½ hours.

The "hypersecretory" type shows a rapid response to stimuli, with a rapid change in acidity even in 5-minute samples. The high point is 70 degrees or over, either sustained or abrupt, and a slow decline or none at all in the usual time.

While there is a wide variation in the acidity exhibited in these three types, it is noted that there is little variation in motor power or tone. It is the established type which is the thing of importance, because deviations bespeak pathological conditions. These deviations may be in one or more of four ways, as follows:

(a) In the period of ascension. This usually occupies the first 30 minutes, and indicates response to stimuli.

(b) Alteration in the type or character of the "acme" or high point. This may be accelerated, retarded, abrupt or sustained.

(c) The period of descent or decline.

(d) The character and modifications of the food residues.

The "fractional" method will not solve all the riddles, but with it a more complete and scientific demonstration of what is normal has been made clear. It is first necessary to thoroughly comprehend and know these normal variations before a study is attempted

of the abnormal curves, an as yet practically unexplored field, full of interest and promise of reward.

Let us continue to remember that a definite stimulus produces practically always the same result under constant conditions, and that anatomic changes result almost always, although not invariably, in a change of function. Is it not, then, rational to conclude that, unless the gastric response did not in a way reflect the condition of this organ, it would be the first organ which does not follow known physiologic laws?*

Hence, within limits, there should be pathological curves which will serve as an index to certain conditions, and which we must learn to interpret. We will no longer be content with the findings from the examination of a test-meal which has been drawn at the one-hour interval. The "acid content" obtained in this way is of absolutely no value as an index to the gastric activities, either as to what may have gone on before or as to what is to follow. Or, again, to illustrate more graphically, let us suppose that in a given case the "acme" or high point of free HCl had been reached at 45 minutes, and at 50 minutes duodenal contents had returned into the stomach.

What would the result be? The "free HCl" would have been in part or in whole neutralized, and the report on the meal, drawn five minutes later, would probably be about as follows: "Free HCl absent; bile present, etc." Again: Bleeding may pass undiscovered, and will if it takes place at some period later than the aspiration of the one-hour meal specimen. I cite these merely as examples of the many sources of error to be encountered in the old method.

That there is a definite relationship between a high free HCl content and ulcer and a diminution or absence of "free HCl" in cancer there can be no doubt. But any definite relationship has never been established. It is only necessary to review the long lists of statistics, gathered from the clinics of many workers, to see that the "acid findings" in ulcer and cancer do not coincide with the definite conditions sufficiently often to furnish us with information of definite value.

It is not now difficult to see why this lack of uniformity has prevailed in the past, and that *in the future such statistics must be based upon "digestive curves," and not upon single-specimen examinations.*

I have introduced this method at the University Hospital, and although the number of cases investigated so far is not large, the value of the method is without question. The technique is not difficult to acquire, but a fair degree of patience is required. A fractional examination usually consumes from three to five hours, and this is perhaps the only drawback. With several assistants, and by grouping the patients, the labor is greatly lessened. However, this is distinctly a laboratory or hospital method, and cannot

*Being a review or digest. I have borrowed freely from the text.

be practiced except occasionally by the general practitioner. And it is somewhat like blood examination and similar work, which requires daily acquaintance with it to avoid becoming rusty.

Since the "fractional curve" is a record of the *functional capacities of the stomach,* and the X-rays series *is a shadow-picture of the mechanical aspect,* it is readily appreciated that the two studies should be co-ordinated if the best interpretation of the findings in each is to be had. That the method is a distinct step in advance is, I think, evident to all.

I wish to present, briefly, six cases. Three of these were gall-stone cases, one a "hookworm" case, one a post-cecal appendix, and the last an ulcer of the lesser curvature. The gall-stone cases had the diagnosis confirmed at operation. Fourteen living embryo were seen under the first cover-slip in the "hookworm" case. In the appendix case, the X-ray plates were strongly suggestive of obstruction at the pylorus, with symptoms of chronic ulcer. The X-ray pictures also misled in the ulcer case.

Fractional curves demonstrated that there was a continued hypersecretion in all three gall-stone cases. The curves were normal in the "hookworm" case and in the appendix case, while the "ulcer fractional curve" demonstrates how misleading a "one-hour-after" examination for free HCl would have been.

The cases will not be reviewed in detail, because of lack of time and space, but it may be mentioned that the three gall-stone cases were quite atypical in history and symptomatology; they were old chronic cases, and had been under all sorts of treatments for years. In two the symptoms pointed strongly to ulcer, while in the third the trouble was thought to be due to a visceroptosis.*

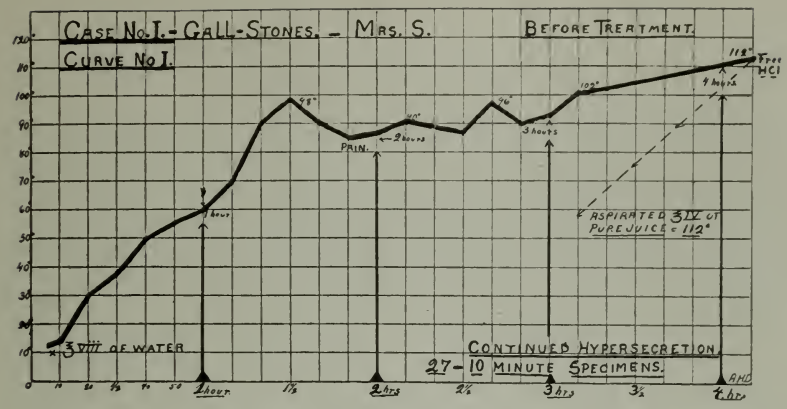
REPORT OF CASES.

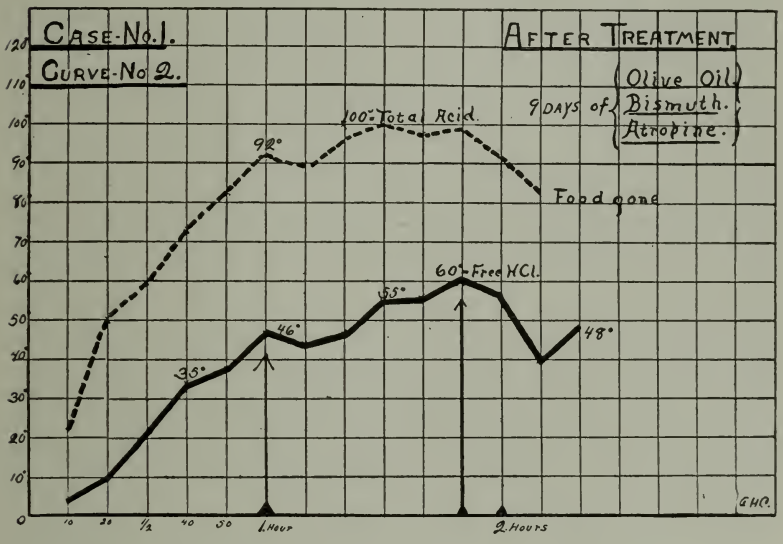
Case No. 1.—Mrs. S.; gall-stones. (Referred by Dr. Willse.)

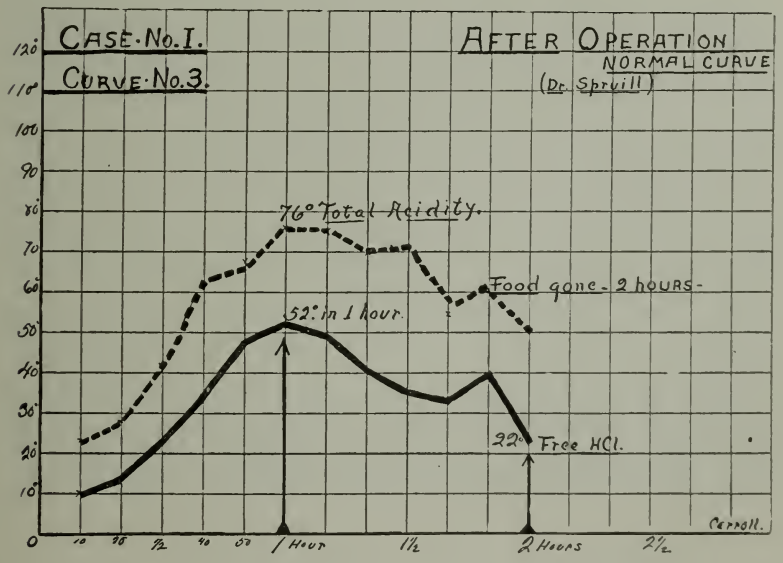
This patient exhibited symptoms which strongly suggested "ulcer," and with the exception that there was some tenderness in the region of the gall-bladder, there was nothing definite upon which to pin a diagnosis. The present attack was of four weeks' duration. She is a married white woman, 38 years old, and has had two children. She has never had typhoid, nor has she ever been jaundiced. This spell came on with pain in the epigastrium, with vomiting of a "greenish material," but no blood. Food relieved the pains for a time, but some pain was constantly present. Vomiting was persistent.

She was put on olive oil, bismuth and atropine after the first fractional analysis had been made, and the continued hypersecretion noticed in "Case No. 1, Curve No. 1." About nine days later the pain was much less, but had not disappeared, and the second fractional was made. I did this to see if the medical treatment

*The cases were operated upon for me by Drs. Randolph Winslow, Arthur Shipley, Robert Bay, Frank Martin and St. Clair Spruill. Dr. Maldeis examined the gall-stones bacteriologically, and Dr. Chandlee made all the X-ray photographs. I wish to thank these gentlemen for their interest and assistance in this rather tedious work.


CASE No. I. - GALL-STONES. - MRS. S.
BEFORE TREATMENT.
CURVE No. I.
Free HCl
PAIN.
3 hours
ASPIRATED 3IV OF PURE JUICE = 112°
3VIII OF WATER
CONTINUED HYPERSECRETION.
27 - 10 MINUTE SPECIMENS.
1 hour
2 hrs
3 hrs
4 hrs
A.H.C.


CASE-No. I.
CURVE-No 2.
AFTER TREATMENT
9 DAYS of (Olive Oil / Bismuth. / Atropine.)
100° Total Acid.
92°
Food gone
60° Free HCl.
55°
46°
48°
35°
1 HOUR
2 HOURS
G.H.C.


CASE-No. I.
CURVE-No. 3.
AFTER OPERATION
NORMAL CURVE
(Dr. Spruill)
76° Total Acidity.
Food gone - 2 HOURS -
52° in 1 hour.
22° Free HCl.
1 HOUR
2 HOURS
Carroll.

was inhibiting the formation of HCl. "Case No. 1, Curve No. 2." It was thought that her trouble was ulcer up to this time, but I discovered bile-stained flecks, containing red cells and pus cells in the gastric contents, and a much larger number in the duodenum after pressing upon the gall-bladder. X-ray pictures were ordered and taken. These demonstrated trouble, obstructive in character, near the pylorus and in the jejunum.

(Case No. 1. Plates Nos. 1, 2, 3, and 4.) The plates were so unusual that they are presented. It would have been indeed hard to make a more exact diagnosis than "adhesions" from them. The third fractional curve was made four weeks after operation by Dr. Spruill, who released two distinct bands of adhesions and removed 24 small stones from an inflamed gall-bladder.

The first fractional curve demonstrates a contiuued hyperchlorhydria lasting for more than four hours, with a high point of 112 degrees free HCl. With pain two hours after eating. The second curve shows not so much a diminution of acid present, but that the oil and bismuth had lessened the "free acid" content. The third curve, made after the operation, shows a perfectly normal type of curve of the "isosecretory" group. Compare this "hyperchlorhydria" and "continued hypersecretion" curve (Case No. 1, Curve No. 1) with the curves in cases Nos. 2 and 3. It will be seen that the three curves present a striking similarity in these three gall-stone cases. The continued "hyperchlorhydria" is the result of reflex irritation, due to gall-stones and adhesions. It appears that we may have established a curve which will represent this condition. Again, it may be only a coincidence and based upon too small a number of cases, and may be found to exist in a number of irritative states.

Study of Fractional Curves in Case No. 1.—On a fasting stomach 8 ounces of "tap-water" was given and specimens secured at 5, 10 and 20 minutes afterwards. Then for the remaining period specimens were aspirated every 10 minutes for four hours. At the end of this time there was aspirated 4 ounces of gastric juice of high acidity.—112 degrees free HCl. The entire amount which was aspirated was greater than double the amount ingested.

Pain appeared near the end of the second hour. Note that at *one hour,* the usual time of withdrawing a test-meal, the acidity was 60 degrees; at *two hours,* 88 degrees, and that from then on there was a continued rise. Grumous, pus-laden, bile-stained flecks were obtained from time to time.

The "rise" is slow, but regular. The "acme" is not acute. There is no decline in the curve if we call the 1½-hour point the "acme."

Curve No. 2 of this case was made after treatment directed to the lessening of the HCl secretion. Olive oil, bismuth and atropine were agents used. Ten-minute samples were secured, filtered and examined after a "tea and toast meal." Note that the

"free" and "total acid" is much diminished. Food gone in about two hours, but bismuth continued.

The "acme" is delayed until two hours have passed. It is but 60 degree free HCl, against 112 degrees in the first examination.

Curve No. 3.—This represents a typical "isosecretory" curve, and was made the day of discharge of the patient. Free HCl 52 degrees in one hour. A gradual ascent, a slow decline, and the stomach empty in two hours.

X-ray Studies: Plates Nos. 1, 2, 3 *and* 4. (Case No. 1.)

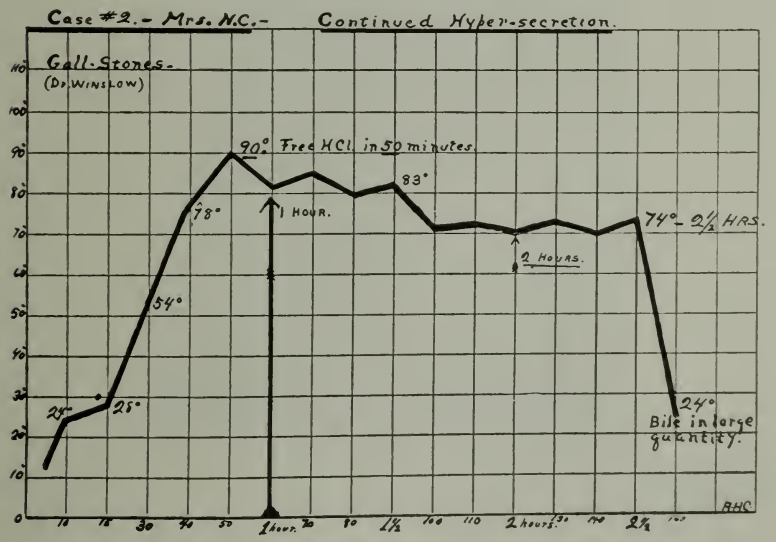
First.—These plates demonstrate definitely that there is obstruction, which must be from mechanical causes, although "spasm" may play a complicating part.

One and one-half ounces of bismuth subcarbonate given at 9 P. M. and again at 9 A. M., immediately before Plate No. 1 was taken. The second plate was taken at 10.30, the third at 12 M. and the fourth at 5 P. M.

Note in No. 1 the rapid passage of bismuth through the pylorus and the drawing of the stomach to the right, with a prepyloric bulging. In No. 2 the narrowing of the gastric lumen and the bulged irregular "cap." In No. 3 the cap is regular in outline.

Case No. 2.—Mrs. N. C.; age 24; white; married; American.

This patient was an immensely stout young woman, with a past history which shed no light whatever on her present trouble, which consisted of almost incessant vomiting and pain in the epigastrium, and also in the entire region of the transverse colon, lasting for the past three weeks.



Gall-Stone Case No. 1. (Plate No. 1.) Note the stomach drawn to the right, with prepyloric bulging. A long "hooked stomach," and bismuth from previous 12-hour meal in the ascending colon.

Gall-Stone Case No. 1. (Plate No. 2.) Taken after 1½ hours. There is vigorous gastric tonicity, with a more regularly outlined "cap," which is greatly distended. Bismuth has rapidly filled the small intestine, which appears to be blocked, distal to the jejunum.

Gall-Stone Case No. 1. (Plate No. 3.) The "cap" is more symmetrical, but greatly dilated. Some bismuth has passed beyond the obstruction, and is progressing towards the cecum, after 2½ hours. Small intestine dilated, no progress of large bowel content beyond the hepatic flexure.

Gall-Stone Case No. 1. (Plate No. 4.) In 7½ hours the bismuth has passed the obstructions, and has reached the cecum, but some is seen to be in the last part of the ileum. Stomach is completely empty. Some progress of large bowel content. Diagnosis: Obstructive adhesions probably secondary to gall-bladder involvement.

It was thought that we might be dealing with "vomiting of pregnancy," notwithstanding her stout denials. She said she had had similar attacks, although less severe, off and on for five or more years; that she had had indigestion since she was 14 years old, with eructations and "heart-burn" when in her 'teens. (X-ray and palpation were out of the question because of the adiposity.) Otherwise she had been a well woman.

Nothing was learned from a physical examination, or from the urine, blood or stools. Her case was very confusing, with little to pin a diagnosis on. A fractional examination which I made after securing a very acid residue from the fasting stomach demonstrated the "continued hyperchlorhydria," which was altered only when bile in large quantity entered the stomach, at the end of 2 hours and 40 minutes. (Case 2, Curve No. 1.) In this bile-laden gastric contents pus and red blood flecks were found upon microscopic examination. The flecks were granular under the microscope, and contained bile pigment.

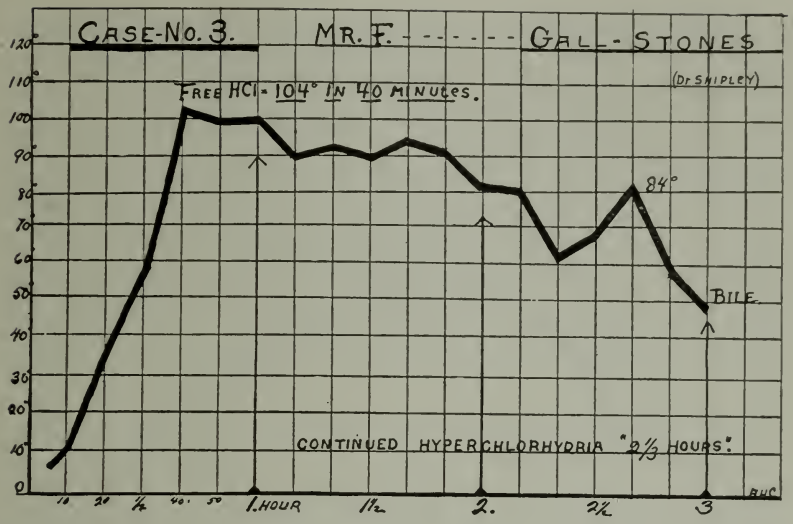
Dr. Randolph Winslow, who referred the case to me for study, verified the diagnosis at operation. The gall-bladder was adherent, thickened and contained stones of irregular shapes and sizes. It bled very readily and was much congested.

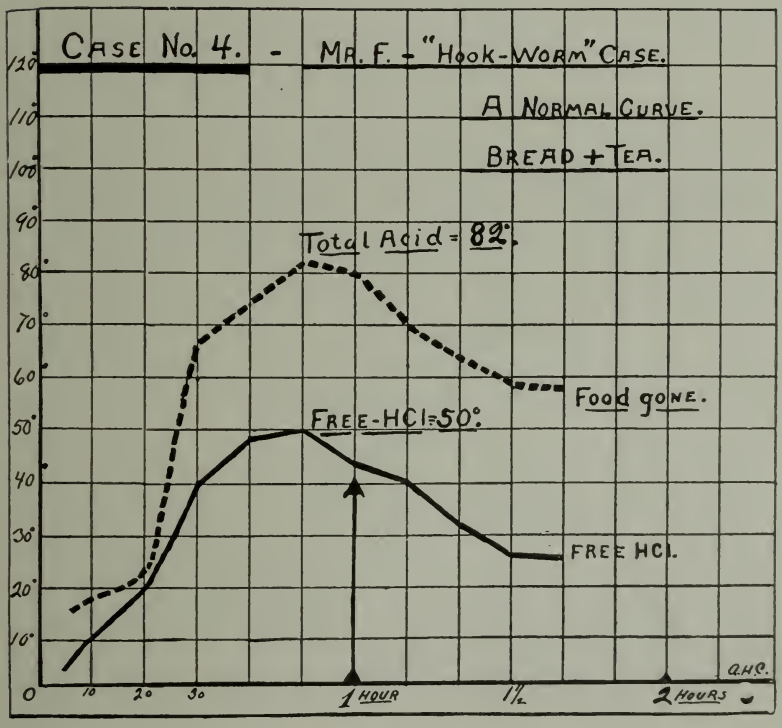
Case No. 3.—Mr. F.; senior medical student; age 24.

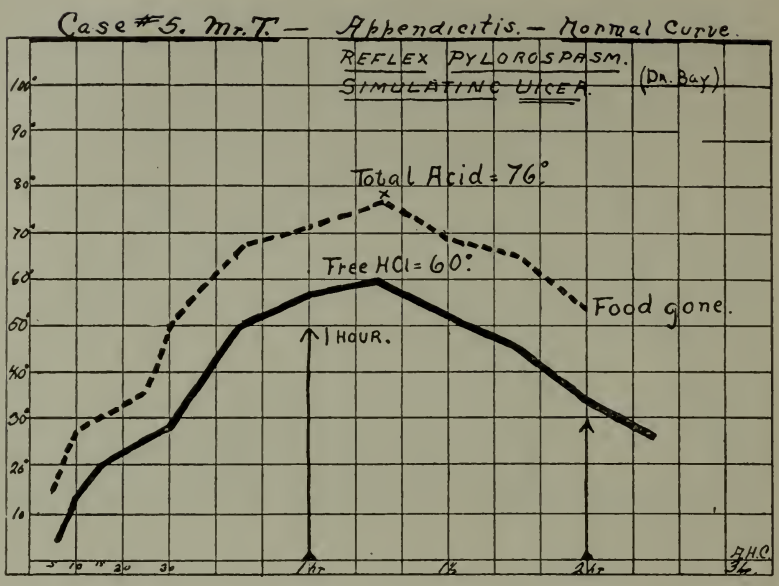
Complaint: Attacks of pain in the epigastrium and in the abdomen. (Not in the region of the gall-bladder.) These he described as "green-apple pains or cramps." He would vomit with the attacks with some relief. The attacks had become more severe the past few years, but he had experienced "indigestion" and milder attacks for eight years. The pain attacks would come on at times early in the morning, and were helped by food, but would soon return. He experienced the pains three to five hours after eating. He thought he had a duodenal ulcer. Some of his symptoms were those of a mild obstruction, and as I discovered a most extreme degree of visceroptosis, it appeared that this may have been the case, and was due to a "kinking" of the small gut. At fluoroscopy I found that there was a hyperperistalsis of the stomach and intestine, but no evidence of mechanical obstruction. Treatment directed to the visceroptosis and its relief —belts, elevated foot of bed, diet, etc.—did not aid in the least.

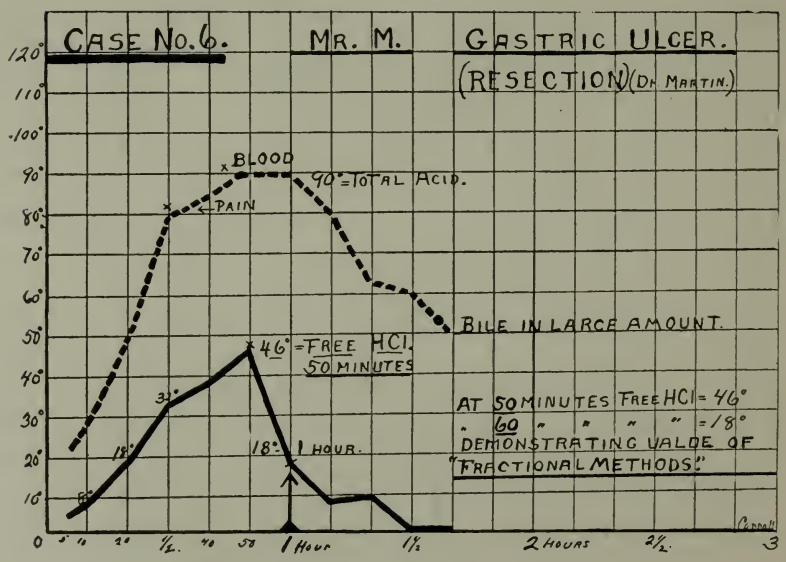
A fractional gastric analysis was decided upon, and again there is seen in Case No. 3, Curve No. 1, a marked hyperchlorhydria, with a long-continued secretion. The curve is strikingly similar to those made in cases Nos. 1 and 2. Again blood flecks were secured, but only in large numbers when the duodenum had been entered by the bulb and the gall-bladder massaged or firmly pressed upon to aid in emptying it.

Dr. Arthur M. Shipley removed the bladder and the contained stones. The patient has gained in weight, has a splendid color and is in good shape all around. His visceroptosis does not appear to interfere with his general health.


CASE-No. 3. MR. F. - - - - - - GALL-STONES
(DR. SHIPLEY)
FREE HCl - 104° IN 40 MINUTES.
84°
BILE.
CONTINUED HYPERCHLORHYDRIA "2⅓ HOURS."
B.H.C.
10 20 ¼ 40 50 1. HOUR 1½ 2. 2½ 3
120° 110° 100° 90° 80° 70° 60° 50° 40° 30° 20° 10° 0


CASE No. 4. - MR. F. + "Hook-Worm" CASE.
A NORMAL CURVE.
BREAD + TEA.
Total Acid = 82°.
Food gone.
FREE-HCl = 50°.
FREE HCl.
Q.H.C.
10 20 30 1 HOUR 1½ 2 HOURS
120° 110° 100° 90° 80° 70° 60° 50° 40° 30° 20° 10° 0


Case #5. Mr. T. — Appendicitis. — Normal Curve.
REFLEX PYLOROSPASM.
SIMULATING ULCER.
(Dr. Bay)
Total Acid = 76°
Free HCl = 60°
Food gone.
1 HOUR.
BHC
100°
90°
80°
70°
60°
50°
40°
30°
20°
10°
1 Hr
1½
2 Hr


CASE No. 6.
MR. M.
GASTRIC ULCER.
(RESECTION) (Dr. MARTIN.)
BLOOD
PAIN
90° = TOTAL ACID.
BILE IN LARGE AMOUNT.
46° = FREE HCl.
50 MINUTES
AT 50 MINUTES FREE HCl = 46°
" 60 " " " " = 18°
DEMONSTRATING VALUE OF
"FRACTIONAL METHODS."
18°
1 HOUR.
120°
110°
100°
90°
80°
70°
60°
50°
40°
30°
20°
10°
0
½
1 Hour
1½
2 Hours
2½
3

Case No. 4.

This was a case of another medical student, Mr. F., who complained of eructation, heart-burn and what he called nervous indigestion. He had been treated by an eminent specialist, but was not "cured." He thought also that he might have "ulcer."

His general appearance was excellent. Red cheeks, skin good tone and of fair weight. He had always enjoyed good health up to six months before he was sent to me for a diagnosis.

The "fractional analysis" was the first laboratory step, and as will be seen in the cut of "Case No. 4, Curve No. 1," the curve of a tea and toast test-meal is perfectly normal. I told him I thought his stomach was all right, but that there was reflex trouble. The next day I found 14 living "hookworm" embryo under the first cover-slip.

Case No. 5.—Mr. T.; age 43; white; American; married; traveling salesman.

Complaint: Pains above the symphisis and a severe sense of epigastric distention about one-half to 1 hour after meals. This had been going on for four years, and dieting did not appear to help in the least. He was much worried because of continued loss of weight, and thought he had cancer of the stomach. He has three brothers who are doctors, and he is a man of good common sense. His general appearance suggested early malignancy. There was practically no epigastric pain, but vomiting was rather a common thing for him. He had become accustomed to it, and was relieved by it. The usual studies shed no light.

The X-ray pictures demonstrated a very irregular cap, with some seeming prepyloric filling defect and marked retention. Plates Nos. 1, 2 and 3, Case No. 5. There appeared to be an adhesive condition of the ascending to the transverse colon. Bismuth was in the stomach six hours after it was given.

The "fractional test-meal" was taken on a day when there had been no previous food for 24 hours and when there was practically no discomfort. The curve is perfectly normal. Curve No. 1, Case No. 5.

Operation by Dr. Bay disclosed a perfectly normal gall-bladder and pyloric region, but demonstrated a chronic post-cecal appendix.

The X-ray had entirely misled. They were taken when there was a reflex spasm of the pylorus, secondary to appendiceal trouble. The fractional curve was an index to gastric activities when there was no intestinal content in the region of the appendix, and was normal. I demonstrate the X-ray plates because they show so well the "reflex spasm" of the pylorus, with retention, in some chronic appendix cases, and not to belittle this great aid in gastroenterological diagnostic work. Note the dilation due to atony in Plate No. 3, following the continued spasm of the pylorus, which in itself is secondary to the ballooning of the last portion of the ileum.

Case No. 5. (Plate No. 1.) Chronic post-cecal appendix. The fractional curve of this case was perfectly normal between attacks of "stomach trouble." No past history indicating appendicitis. Note irregular cap, also bunching at the hepatic flexure.

Case No. 5. (Plate No. 2.) Only a small amount of bismuth has passed the pylorus after 1½ hours. There is spasm of the prepyloric portion.

Case No. 5. (Plate No. 3.) Atonic dilated stomach with continued retention, six and one-half hours after last bismuth. The distal portion of the ileum dilated by previous meal. Between attacks and with an empty bowel the "fractional curve" was normal. Chronic post-cecal appendix.

Case No. 6. (Plate No. 1.) Gastric ulcer case. Stomach in good position, with previous meal at the splenic flexure. Only a small amount of bismuth has escaped into the duodenum. Prepyloric bulging and *evidence of obstruction at the pylorus.*

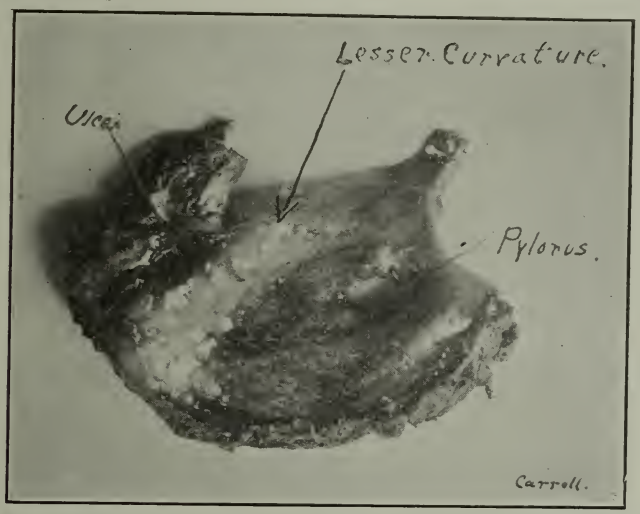
Case No. 6. (Plate No. 2.) No more bismuth has left stomach at end of 1½ hours. Pylorus apparently obstructed almost entirely. No progress in the large intestine, beyond the splenic flexure. The stomach strongly contracted.

Case No. 6. (Plate No. 3.) A six-hour plate. Stomach distended and atonic. Complete spastic pyloric obstruction. The ulcer was on the lesser curvature, nearer the cardia than the pylorus. (See "fractional curve," No. 6, also photo of resected ulcer.)

Case No. 6.—Mr. M.; single; white; American; ironworker.

This was a case of gastric ulcer, and was typical in the symptomatology. The trouble was of five years' duration, and it was thought from his loss of weight and general appearance that there was cancer, until a thorough study was made. The X-ray plates demonstrated a retention which was *almost complete.* At test-meal examination I found food which had been present 27 hours in the stomach.

He was only slightly jaundiced in appearance. However, the X-ray plates appear to demonstrate an almost complete closure at the pylorus. The impression was benign stenosis, and not reflex pylorospasm.



Case No. 6. Resection of the pyloric portion of the stomach, with "ulcer of lesser curvature" in upper left, and pylric opening to the right. Gastroenterostomy was done by Dr. Frank Martin. Uneventful recovery. Note that the X-ray plates show only a definite *pyloric* obstruction. (Plates Nos. 1, 2, 3, Case No. 6.)

Note that in the "fractional curve" (Case No. 6) that at 50 minutes the free HCl is 46 degrees; that bile returned into the stomach at 60 minutes and reduced the acid at the "one-hour period" to but 18 degrees, with a later absence of all free acid. The curve demonstrates the type of errors to be expected from the single test-meal examination and the liability of the X-ray when depended upon exclusively to deceive. Blood, but no bile at times in the content did not aid in the diagnosis, but suggested that the stenosis might be a malignant one. The pylorus appears in the X-ray plates to be the seat of the trouble, but at operation, (Dr. Martin) it was normal and the ulcer was slightly nearer the cardia, on the lesser curvature, than to the pylorus. Pyloric resection of indurated ulcer area plus gastroenterostomy. (X-ray plates Nos. 1, 2, 3, Case No. 6.) (Resected ulcer, Case 6.) Uneventful recovery.

Rehfuss has demonstrated to us that we must not expect constant results which can be used in estimating "acid content relationship" in ulcer and cancer from the single test-meal. We must start all over again to build up new statistics, and these must be based upon "fractional curves," and not upon such incomplete information as is obtained by single examinations.

It appears that, although we may not secure definite curves for each gastric disorder, that in gall-stone and in other cases where there is constant irritation there may be a continued hypersecretion.

This has been observed in six cases in all of undoubted gall-bladder trouble, but in only three has the diagnosis been confirmed at operation. In five cases of ulcer, only one of which is reported, the curve was also characteristic. In one "hookworm" case and in a chronic post-cecal appendix case the curves have been found to be normal, although the symptoms were those of gastric character only.

It is too early to draw conclusions, but the results in the limited number of cases are significant, and demonstrate, I think, that this new method has undoubted diagnostic value. This report will not have been valueless if it merely serves to stimulate a further interest in this new line of work.

The Walbert, Baltimore.

A TREATMENT FOR PRURITUS ANI.

Harvey B. Stone, M.D.

As is of course well recognized, pruritus ani is properly a symptom and not a disease. Without discussing exhaustively its etiology, pathology, etc., the cause of the distressing itching may be found in some local lesion, such as hemorrhoids, pin worms, eczema, and various other conditions, or in some constitutional disturbance, of which diabetes may be mentioned as an example. Obviously, where the cause is known, the principles of treatment will be determined by the particular nature of this cause, and it is not the purpose of this paper to discuss such cases. There remains, however, the large and most difficult group of cases in which no causative factor can be definitely discovered and which are grouped under the term idiopathic pruritus.

Various theories—acid secretions, latent infection with special types of organisms, central and peripheral nerve disturbances—have been advanced to account for the condition. No less various treatments have been employed for its alleviation. The whole gamut of ointments, powders, lotions, irrigations, etc., have been employed with varying but never general success. Cauterization, X-ray exposures and vaccines are rather more recent attempts to solve the problem. Operative measures, such as the Ball and Lynch procedures, for division of the peripheral cutaneous nerves,

have been employed. The fact that the latter have a certain field of usefulness and popularity is evidence of the extent to which the patient is willing to go to seek relief. One who has listened to the histories of such cases, with long months and years of intolerable annoyance and distress, broken rest, lost sleep and impaired health, will feel that the attempt to improve our methods of attack upon this condition is not an unworthy field of endeavor. It is the purpose of this paper to make a preliminary report of such an attempt.

The success of alcohol injections for producing local lasting anesthesia in facial and other forms of neuralgia suggested the application of the same principle for the abolition of unpleasant sensations from the anal and perianal regions. The alcohol, of course, produces its effect by destruction of the nerve fibers with which it comes in contact. Hence, in essential principle, such a treatment is quite analagous to the Ball or Lynch operations referred to above, in which the cutaneous nerves are destroyed by direct mechanical division, instead of by chemical attack. The alcohol method presents certain definite advantages that will be referred to later. There are certain possible disadvantages also that will be considered at once. Since there is no selective action of alcohol, by which motor nerves are spared, and only sensory ones injured, one might expect a loss of sphincter control if the injections were allowed to come in close relation with the motor branches to the muscles. Also, an injection of a substance causing tissue destruction, if too superficially placed, might be expected to cause a slough and resultant ulceration.

In order to test these possibilities by actual experiment, alcohol injections about the anal regions in dogs were performed, the depth of introduction being varied. Without detailing the protocols of experiments, the following facts were clearly proved: Alcohol injections will produce complete local anesthesia. If introduced deeply enough to come in contast with the motor nerves, sphincteric paralysis and resultant incontinence are produced. If introduced quite superficially—that is, within the skin itself—superficial sloughs are caused. It is quite possible, however, and not very difficult, to produce anesthesia with no sphincter paralysis nor skin ulceration; and this by introducing the needle entirely through the skin, but injecting the alcohol immediately under the skin and never deeper than that.

The method has been tried so far in only four clinical cases and for a period so far covering only a few months at most. This, therefore, can only be considered a preliminary report. The facts observed are as follows: Entire and immediate abolition of the itching from the area injected, along with other sensation leaving an anesthetic zone. No sphincter disturbance. A slight superficial slough in one case where the injection was made into the skin proper instead of under it, due to the patient pulling away just at the moment of injection. The anesthesia may last at least three months; how much longer I am not prepared to say.

As to technique, it is simplicity itself. An ordinary hypodermic needle and syringe, boiled, is filled with 70 per cent. alcohol. The skin is prepared as for ordinary hypodermic injection. The needle is introduced well through the skin in the area to be treated, and then made to travel along directly under the skin, depositing the alcohol, until the whole area has been thus infiltrated. The needle is never plunged in deeply, nor is it allowed to engage in the corium while injection is taking place. The thing is much easier to do than it sounds. The injection causes acute intense pain for a very short time, one to two minutes only. Then sensation is lost. This may be prevented by a light general anesthetic, if desired, or by preceding the alcohol injection by that of some local anesthetic. There is no subsequent treatment required.

This method accomplishes practically the same thing as the operative treatment for pruritus, and is fairly indicated in those cases of great intensity where usual measures have failed. It has certain distinct advantages over the operative procedures. It is safer; there is no undermined skin with impaired circulation, with a potential dead space under it, in an area impossible to keep clean. It is quicker. It entails no dressings, stitches or other post-operative annoyance to physician or patient, and no hospital expense. It is quite as likely to be enduringly satisfactory, and presents no greater possibilities of trouble.

The cases herein reported without detail have been done in the Johns Hopkins Dispensary since January, 1915. It is the intention to carry the work further as opportunity offers and publish a more extensive report at some later date.

Book Reviews.

A Practical Textbook of Immunity, Infection and Specific Therapy. With Special Reference to Immunologic Technic. By John A. Kolmer, M.D., Dr. P.H., Instructor in Experimental Pathology, University of Pennsylvania; Professor of Pathology and Bacteriology, Philadelphia Polyclinic, and Pathologist to the Department of Dermatologic Research; Pathologist to the Philadelphia Hospital for Contagious Diseases. With an introduction by Allen J. Smith, M.D., Sc.D., LL.D., Professor of Pathology, University of Pennsylvania. With 143 original illustrations, 43 in colors, by Edwin F. Faber, Instructor in Medical Drawing, University of Pennsylvania. Philadelphia and London: W. B. Saunders Company. Baltimore: The Medical Standard Book Co. 1915. Cloth. $6 net.

Such strides have been made in specific therapy and in our knowledge of immunity and infection that the subject has become a specialty in itself. It is the practical use to which the knowledge can be put that concerns the practicing physician. What is to be expected from specific therapy is the information desired in most

instances. The theoretical side of the subject is of only passing interest to the physician in general. The student, however, demands a fairly comprehensive manual. The book before us combines the two essentials. It contains a sufficiently fulsome account of the therapeutic technic to meet the demands of the practitioner as well as a very comprehensive elaboration of the theoretical side. There is no doubt that this character of medication is to a large extent bound to supplant drugging. In fact, such is already the case. Diphtheria antitoxin, antitetanic serum, typhoid vaccination, etc., are silent witnesses to this boon to humanity. Therefore, the physician of the future must have an intimate knowledge of immunity, and how produced. The book before us is the last word on the subject. It gives to students and practitioners a connected and concise account of our present knowledge regarding the manner in which the body may become infected, and, in turn, the method by which the organism protects itself against infection, or strives to overcome the infection if it should occur. Also to present a practical application of this knowledge to the diagnosis, prevention and treatment of disease. It also strives to give those engaged in laboratory and experimental medicine a guide to immunologic technic. To accomplish this object it concerns itself with general immunologic technic, principles of infection, principles of immunity, such as theories, various types of immunity, phagocytosis, opsonins, obsonic index, bacterial vaccines, antitoxins, ferments and antiferments, agglutinins, etc.; applied immunity in the prophylaxis, diagnosis and treatment of disease, etc. Its field is large, but the author has succeeded in making a working book. In fact, it is just the kind of a book needed by the general practitioner and student.

Nursing and Care of the Nervous and the Insane. By Charles K. Mills, M.D., Professor of Neurology in the University of Pennsylvania; Neurologist to the Philadelphia General Hospital. Third Edition. Revised by the Author, Assisted by N. S. Yawger, M.D., Instructor in Neurology to the University of Pennsylvania, Assistant Neurologist to the Philadelphia General Hospital. Philadelphia and London: J. B. Lippincott Company. Cloth, $1.25 net. 1915.

This little book contains the knowledge essential to a nurse to treat nervous and mental diseases intelligently. It is written in such plain English that a nurse of ordinary intelligence should get a good insight into the fundamental features of nervous and psychical maladies and the proper methods for nursing the various aberations. It is a very complete little volume, containing information on such subjects as massaging, various forms of electricity and their applicability, motor points, conducting cords, the nursing and care of the insane, and other information of a practical character. Besides, it is well illustrated, thus adding to its value as a disseminator of knowledge.

MARYLAND MEDICAL JOURNAL

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BALTIMORE, AUGUST, 1915

CANCER OF THE STOMACH.

CANCER of the stomach is followed by such dire results that any information which tends to clear up the question is very acceptable at this time. Cancer here, as elsewhere in the body, is apparently on the increase. Whether this increase is real or due to better diagnosis is at present impossible for us to definitely say. Whether the increase is real or apparent is of little moment; what concerns the profession is that cancer of the stomach is more prevalent than formerly. In this location the only agent which offers a possibility of cure is complete extirpation of the infected area by knife, and then only when the growth is gotten before it has metastasized. With our present facilities a cure can only be looked for while the growth is local, and, so far as we are aware, by surgery, and by no other means. As yet no authentic cure by medicine has been reported. This being so, the diagnosis must be made early, and every effort of the profession should be bent in making earlier and yet earlier diagnosis, for if the profession expects to help this class of sufferers, they must be gotten to the surgeon at the earliest possible moment. A very illuminative talk along these lines was made by Dr. Joseph C. Bloodgood at the May 10, 1915, meeting of the American Gastro-Enterological Association. He drew his conclusions from a series of 184 cases of carcinoma of the stomach, and in the above-mentioned address recorded these observations somewhat as follows: "I have gathered from the reading of the literature that those surgical clinics in which the total number of cancers of the stomach was larger than the total number of ulcers of the stomach observed a larger percentage of inoperable cancer and a smaller percentage of cures

among the cases in which resection of the stomach was possible than those clinics in which the number of ulcers of the stomach exceeded that of cancer. This is true for the cases which I have recorded. In the Surgical Pathological Laboratory to date our figures are as follows: stomach ulcer, 132; stomach carcinoma, 184. Cancer, therefore, has been more frequently observed than ulcer. The proportion of operable to inoperable cases are: No operation, 45; exploratory laparotomy, 49; gastro-enterostomy, 41; total inoperable cases, 135; operable, 49. This demonstrates that in only 26 per cent. of the cases has the cancer of the stomach been operable." Though the first cancer of the stomach was observed in 1890, it was not until 1905 that the experience of this clinic with cancer of the stomach really began. From 1905 to 1910 the total number of cases seen was 76, of which only 12, about 16 per cent., were operable. From 1910 to 1915 a distinct change has taken place. The total number of cases so far is 73, of which 28, or 39 per cent., were operable. These figures surely demonstrate that patients with cancer of the stomach are being recognized earlier. Up until 1910, among 21 resections, there have been two cures—a little less than 10 per cent. of the operable cases, or two cures among a total of 111 cases, or 1.7 per cent. Up to the present time, among the 28 resections between 1910 and 1915 there is one patient still living in whose case it will be five years since the operation in August, 1915. Dr. Bloodgood also records that the length of duration of the disease does not always influence its operability. Some of the patients evidently came to operation soon after the beginning of the growth, which was found on opening the abdomen to be inoperable, whilst other patients who did not come to operation until some time after continuous symptoms, such as loss of weight, vomiting of blood, blood in stools, etc., had occurred, upon opening were found to have a removable growth. Such, however, was an exception to the rule, the longer the presence of the neoplasms, the less likelihood of its being operable.

The experience of the Hopkins clinics pictures the experience of every other surgical clinic. If cancer of the stomach is to be mastered, the adult population must be informed that epigastric discomfort aggravated by eating solid food is a sufficient warning. They must be told that such symptoms should compel a physical examination by a competent physician. Until the public is thus educated, cancer of the stomach will continue to reap its toll.

Medical Items.

Dr. Howard A. Kelly has left for Toronto, Canada, where he will remain until September.

Dr. Francis P. Carroll, formerly of the surgical staff of St. Agnes' Hospital, has left Baltimore to take up his new work as resident physician and surgeon of the Bridgeport Hospital, Bridgeport, Conn.

Dr. John C. Hemmeter, who has been ill with appendicitis, is improving.

Dr. J. A. Campbell Colston has been promoted to senior surgeon of the Red Cross unit at Pau, France, to succeed Dr. E. Kirby Smith, who resigned to go to Serbia to aid in the work of the extermination of typhus fever.

Dr. Thomas L. Shearer, who was appointed by the British Government after the beginning of the war as examining physician of candidates, has sent a great number of ex-British service men to New York for enlistment.

Dr. William L. Smith, Riderwood, Md., who has been ill, is reported to be improving.

Dr. Thomas S. Cullen, who was operated on for gall-stones some weeks ago at the Johns Hopkins Hospital, has recovered and left for a Canadian island to fully recuperate.

One of the mast completely-equipped hospital surgeries in the country was opened to public inspection July 15 and 16, when the board of managers and Woman's Auxiliary of the Maryland General Hospital held receptions.

Dr. Clyde V. Matthews of West Preston street left recently for a western trip. He will go by way of the Grand Canyon, San Diego and San Francisco, visiting the Expositions and other points of interest. In Spokane, Wash., he will be the guest of his brother, Dr. Aldridge A. Matthews. He will return by the Canadian Pacific route.

Dr. William S. Thayer, professor of clinical medicine at the Johns Hopkins Medical School, has been nominated for one of the five vacancies of the board of overseers of Harvard University. He is one of the 10 men nominated by a postcard ballot, and stands fourth on the list.

Dr. William Lee Smith, Riderwood, Md., who has been under treatment at the Johns Hopkins Hospital, is much improved. He has left the hospital.

Dr. Thomas L. Patterson, M. A., associate professor of biology and physiology in the University of Maryland, has resigned his position in order to accept the position of assistant professor of physiology in the medical faculty of Queen's University, Kingston, Ontario, Canada.

Dr. Richard H. Johnston has resigned as clinical profesor of laryngology in the University of Maryland, and has severed his connection with the institution.

The 72d annual report of Mount Hope Retreat, near Pikesville, as submitted by Dr. Chas. G. Hill, physician-in-chief, shows that there were 661 patients there at the beginning of 1914, and that 237 were admitted during the year, making a total of 898. There were discharged 189, and 52 died, leaving 670 at the end of the year.

The patients represented seven nationalities, and were admitted from 17 States. The admissions embraced 36 occupations, and 14 had no occupations. The institution is owned and controlled by the Sisters of Charity.

As a memorial to their father, who was a member of the corporation of Yale, Dr. John Howland, Baltimore, together with his brother and sister, has given $15,000 to Yale University. The gift is to be awarded to some citizen of this country as a prize in recognition of sole achievement of marked distinction in literature or fine arts or the science of government.

Dr. Frederick A. Conradi, 2221 E. Baltimore street, for 36 years a practicing physician in East Baltimore, is seriously ill at Mercy Hospital, suffering with a complication of diseases.

Dr. Louie M. Limbaugh, University of Maryland Medical School, '14, has accepted a residency at the Union Protestant Infirmary, Jacksonville, Fla. Service will begin September 1, and is mixed.

Prof. Randolph Winslow, who has been on an extended Western trip for the past six weeks, has returned home.

Dr. David Streett is in St. Agnes' Hospital critically ill with intestinal trouble, for which he underwent a recent operation.

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"SELF MANUFACTURE."*

By Clement A. Penrose, M.D.

Ladies and Gentlemen:

My difficulty in addressing such a promising-looking graduating class is not due to any lack of material. The occasion is too transient, however, for me, having the welfare of each member of this class so much at heart, to give them all the advice and all the warnings I should like to give them or to present to you, the audience, a picture of the successful careers which I feel sure will crown their future efforts. The heroic death of a Red Cross physician, Dr. Ernest P. Magruder, from typhus in Serbia is so recent in my mind (we were boys together at the university) that I feel especially sensitive to the obligation imposed upon me of giving these young women a message which is adequate for the beginning of their life's work. I realize too keenly the many pitfalls they must pass by, the many trials and tribulations they must endure, the many mysteries and dangers they will have to cope with, perhaps as Red Cross workers in fearful wars, or in no less praiseworthy efforts amidst the sufferers of our large cities.

I am not concerned about the training these nurses have received. The success of our graduates in passing the State Board of Examiners in the past, as well as their meeting efficiently all other tests, has well demonstrated the quality of their instruction. The knowledge I have of this institution, its superintendent, Miss Nash, and her excellent staff, makes me feel certain that they are fully equipped for their respective duties. What I would gladly give them, if it were possible, is the knowledge which is derived from experience alone, and which is not taught in any book.

Patrick Henry, in a speech in the Virginia Convention, March 17, 1775, said: "I have but one lamp by which my feet are guided, that is the lamp of experience. I know no way of judging of the future but by the past." The experience of others, while it may

*Address given at the graduating exercises of the Nurses' Training School of the Church Home and Infirmary, May 12, 1915.

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help us in many ways, will not, unfortunately, make our own characters. This is ever the result of individual effort, whether we succeed or fail. Believing that one truth well learned is worth many but partly heeded, I shall not endeavor, as is customary on these occasions, to cover a wide range of topics, but will confine myself, hard as it is to do so, to a single life problem, trusting that its exposition may be of some service to these young women in their future work.

The title of my address is "Self-Manufacture," or "the making of one's self," and under this heading I will briefly emphasize the importance of developing especially the following qualities—the youthful spirit, toleration, power of observation, interest in the work, forgetfulness of self, and moral responsibility.

These nurses are now leaving the protective influence of their "Alma Mater," and will have to face life, with its many problems, more or less alone. Youth is the time of the greatest contradictions. If we study the biographies of great men and women we will find in this time of their life the records of the fiercest radicalism or the greatest conservatism; the most bitter melancholy or the most irrepressible gayety; the strictest observance of social propriety or the wildest disregard for all laws of society. The store of life and animal spirits, which has accumulated through the protected and placid years of early childhood, suddenly breaks all its barriers like an irresistible torrent and rushes forth furious and uncontrolled until it subsides into the quieter tributaries of approaching middle age. Apply for a moment this consideration of youth to your own chosen profession. The training here, under the sheltering influence of the Dear Old Church Home, we will designate as the childhood of your profession, where a great potential flood of energy and knowledge has been accumulated under the most kind and competent instruction. Now suddenly, by this graduation ceremony this evening, the barriers have been taken away and you are thrown on your own resources. The proposition which you now must face is, what are you going to do with your own future? How can you best utilize the knowledge obtained here for your own betterment and the betterment of the world in which you live? You are in the crucial period of life, where the tendency is to be too extreme and where it is so easy to be marred in the making, or to fail simply from a poor method in building.

The transition from this passive life into an active one, as in the case of childhood into youth, is most abrupt. Youth has suddenly become conscious of its full life and must develop the ideals so necessary for its ultimate happiness. It is a great mistake at this stage to plan your lives too far ahead. One who is really young cannot consciously do so. It is better for your character development to bear the full fury of the storm, keeping strongly and sincerely to one purpose, rather than pick your way too cautiously. The struggle for existence is what in reality keeps us young. The

easy liver, the human drone, is the one who prematurely ages. Remember that it is the quality of experience rather than the quantity which counts in this world. Young people who daily face new situations and new aspects of life have more valuable experience than those who are more mature. It is by the interpretation of these first experiences that a true knowledge of the world is given to us. Older persons only live in their past in endless repetition of events which have already happened. I therefore urge you not to face life with a set plan or philosophy (youth never gets ideas, but ideas get it). Remain true to your first ideals, which are the most vital, and which will survive above everything the harshness of the world.

Youth is the period of reasoning and logical activity. The time to use your facilities to your best advantage is now, while you are young; later you will to your detriment rely more on tradition. We often wonder why life is so short and so incomplete, and why we are so ruthlessly cut down in our declining years. As a good Scotchman tersely put it, "Why are we begun for when we're so soon done for?" This is probably but a protective policy of nature. The ideas of the young are living and potential, while those of the aged are often dying or already dead. Each generation brings into being its new leaders and reformers, better able to compete with the new conditions of civilization, and kills off the skeptics and misanthropists, who are poisoning the world and who speak of all new improvements as youthful effusions. The daring of youth is necessary to cure the inertia, and lethargy and cowardice everywhere present. I would, therefore, emphasize that you keep your youthful spirits as long as you live. Open your minds to all new ideas and keep up forever a strong, aggressive policy of daring and doing with an optimism regarding the future, which is the very essence of perpetual youth.

The second quality, toleration, I feel needs scarcely to be emphasized to these graduates, because of the training they have already received.

The Church Home, owing to its several unique features, probably gives its student nurses more practical experience than the majority of hospitals. Having such a large staff of efficient physicians, derived from many different medical schools, under whom they have performed their nursing, they are not apt to become intolerant, the worst fault of a trained nurse, or anyone, in fact. Early in their training they have realized that good thoughts are born just as well in the University of Maryland as in the Johns Hopkins, or in the Yale Medical School as in the Harvard, etc. They probably know that, after all, it's the man in the physician which makes a good physician, and the woman in the nurse which makes a good nurse, and that the treatment of the sick and suffering does not simply mean operations and medicines, but entails many kindnesses, much sympathy and great encouragement, and that their patients have minds and spirits to be treated as well as

bodies. I believe their training here will prevent them, when in private work, from criticising their patients, patients' family or the physician in charge.

Oliver Wendell Holmes, in speaking (Critic and Guide) of the large field which medicine covers, and which has made us think of this science as allopathy or treating everything diseased, cautions us to be tolerant of every bit of information which may come to us. He shows us historically that we have obtained many of our most important remedial agents, both surgical and medical, from very crude and ignorant sources. A poor Friar taught us how to operate for stone in the bladder, the Japanese acupuncture, a postmaster how to sound the Eustachian tube, while the American savage taught us the uses of lobelia. A monk told us how to use antimony, a soldier gave us a treatment for gout, a sailor a method for preventing scurvy, while a market woman taught us the cause of the itch, and last, but not least, a dairy maid showed Jenner how to prevent smallpox.

With such illustrations as these in mind, we should certainly not condemn any method which might be presented to us until it has received a thorough trial.

Cultivate your powers of observation. The most illiterate persons are not necessarily the most ignorant, if their fight with the hard conditions about them have taught them how to observe facts. Half-trained minds, which are developed only along special lines, are the great menace to modern civilization. With their minds in a state of mental confusion from the wealth of material daily presented, they show little discrimination in the selection of what is best. They seek various "isms" and "cults" as panaceas for everything, and are the hardest patients for nurses and doctors to get along with.

Shakespeare was right when he said (King John, Act 1, Scene 1):

> "For he is but a bastard to the time,
> That doth not smack of observation."

The power of observation is especially important in a trained nurse. The physician may see a patient at a time when all his symptoms seem favorable. He examines, however, carefully the well-recorded observations made by the nurse on her clinical chart. A brief remark there attracts his attention. He follows up this clue more closely and an unexpected danger is brought to light, which he averts by prompt action.

In a hundred important ways this quality is of advantage to those handling the sick and suffering. It is probably of the greatest help in the case of little children, who cannot well describe their symptoms, and where the most insignificant occurrence may teach us about their condition. The whole science of medicine rests on the power of observation. The modern conception that many diseases are due to micro-organism we owe to this quality being born

in men like Pollender, who in 1849 first discovered the anthrax bacillus in cases of anthrax, or Davaine a few years later.

Pasteur and Koch subsequently developed the great science of bacteriology by the same means. This might be said about all great discoveries along any lines.

While observing carefully and accurately the various phenomena going on around you, make also a mental note of your own deficiencies. Study how best to overcome all obstacles to the proper handling of the cases entrusted to your care. Without being overly conscientious or going needlessly into detail, omit nothing which will contribute to the welfare of your patients or promote your harmonious relations with them. Make them feel that if they are ever sick again you are the nurse they would like to have a second time.

Be interested in nursing. Without this interest (in *your work* essentially a human interest) you will be a failure as a trained nurse, and had much better take up some other line of employment. Patients soon discover this quality and resent its absence. The most charming manner or attractive personality will not compensate for its loss. Sick people want help, and while I do not think they object, as a rule, to your good looks and other charms (occasionally some wives do), little reliance can be placed on such attractions winning the day without that all-important interest, which is the very kernel of your success.

It is almost impossible not to be interested in medical work, which touches upon every phase of life and in reality decides the very destiny of nations. The wonderful genius of that great General, Hannibal, aided by his terrible Numidian Cavalry, could not conquer Rome. The African fever, however, which was brought by his army across the Pyrenees, insidiously in the succeeding generations, sapped the stamina and manhood of the Roman legions as no war had ever done and made them an easy prey to their future enemies.

Malaria and yellow fever, in reality, prevented the building of the Panama Canal under the French Count De Lesseps. General Gorgas and his able assistants, by his conquest of these diseases, has made it possible to complete this great engineering work.

In 1494 the armies under Charles VIII of France attempted the conquest of Italy. These troops, derived from all parts of Europe, returning to their homes scattered another terrible scourge over the civilized world. (A new world disease introduced into the old by the returning sailors of Christopher Columbus), and which even to the present day left its mark on every generation. Leprosy, derived from the East, was scattered by Crusaders all over the world, and still remains uncured.

Typhoid fever is costing this coutnry every year over a hundred million dollars, and tuberculosis even more. What typhus fever will cost Europe is beyond the imagination to depict, unless Dr. Harry Plotz's recent work helps to avert its ravages.

Last, but not least, one-fifth of the children of civilized nations die before reaching five years of age. Diseases are, even more than wars, the greatest obstacle to human progress, slaying, crippling and impoverishing millions every year. Can anyone who has entered such a field of endeavor lack interest? It hardly seems possible, when speaking broadly of the conditions to be met. It is only in individual cases, in the monotony of looking after one patient, that our interest may lag. Remember also that what may interest you, who are trained along these lines, may be very abhorrent and gruesome to others. Do not talk shop simply for the purpose of relieving your own fullness on these topics. If you are requested to give information along such lines, do it to some good purpose. If your patients endow a few more rooms here at the Church Home, or decide to leave us a good legacy for certain purposes in the future, you have indeed talked well. Our good treasurer, Mr. Thomsen, will, I am sure, bear me out in this statement.

Forget yourselves in your work. Unselfishness and self-denial are truly *most* essential in nursing, as they are in reality in most pursuits where we wish to accomplish something. We pay for every success in life by the expenditure of ourselves in some way or other. *Nothing* comes easily; if it does, then the success is not real or lasting. Unfortunately, although the spirit of sacrifice is within us, the opportunity is sometimes indefinite. We may confuse the making of our environment with the making of ourselves, two very different propositions. From a character standpoint, every man or woman is self-made. No one else can accomplish this for you. As an illustration:

A young man, recently graduated from a good college, went to his father, a successful manufacturer, and said: "I want to learn our business from the ground up; put me in on the lowest round of the ladder." Much pleased, the old man did so, and his son was placed in the machine shops on a small wage, a fact that the father was never tired of referring to with the greatest pride. Being a fine and intelligent fellow, popular with all his coworkers, and last, but not least, a son of the old man, he sailed through all the various departments with flying colors, serving but a few months in some which had taken older men a quarter of a century to learn. Promoted rapidly, he finally became a partner in the firm. A few years later his good old father died, and he succeeded him. The firm shortly after went into the hands of receivers, due to faulty management, was reorganized, and the boy was given a petty clerkship, which he has since filled adequately and which he was just about suited for, and nothing else. Had he fought as his father had fought, step by step, in the face of great commercial competition and opposition, and with the expenditure of much vitality and energy, he might have filled the old man's shoes, but under no other conditions.

It was not the young man's fault that he was a failure. His motives were of the highest. His intentions the very best, but cir-

cumstances were against him. He needed a handicap. The assistance given him was detrimental to his future. He was unable to make himself.

With examples like the above as warnings, I charge you not to rely on influence, or patronage, or a charming personality to pull you through. On the other hand, do not be discouraged because you might feel that you are not starting your life-work with every advantage. Perhaps some of you have greater responsibilities at home than the others, possibly you do not know how to make friends, etc. Never mind, you can overcome everything which is against your advancement, and can even go farther than the most fortunate in your class. This handicap will help you to build up your own character. You will get more that's worth while for your greater sacrifice.

I now come to the last requisite in the making of oneself, and which is a fitting climax to this paper—moral responsibility. Man becomes a man, in the true sense, when his voluntary acts become factors in the world; or, in other words, when he develops moral responsibility. A plant forms a poison within itself which kills those who eat it. A bacteria produces toxines which injure the host in which it develops. The wild beast slays its prey for food. There is, however, no moral code broken in either instance. In the man, however, is born the consciousness of right and wrong. A conscience is developed, and in his evolution upwards this is true in an ever-increasing degree. Man is the best proof we have that Nature strives to better the world, and when she has at last evolved this intelligent creature, she leaves the world very much in his own hands. He has been elevated to the dignity of a creator having dominion over everything. No matter what his station, he had the power for good or evil; the choice lies within himself. Men or women who are carrying on scientific work have especially the need of a high sense of responsibility. Every discovery, every known truth or fact, has the power to benefit the race if utilized correctly. Some which at first may seem to harm, ultimately will help humanity.

Benjamin Franklin, when asked what was the value of a scientific discovery, replied, "the same as a baby; it may develop into something."

The influence of a nurse or physician upon the usually very sensitive and easily molded patient is far-reaching. Thoughtless actions or statements may affect their future lives for all times. The health of their bodies or minds may be at stake. A physician who handles cases of moral disease, but does not attempt to help the patient further than with pills and potions, is a poor fellow at best, and certainly degenerating. The nurse who is absolutely passive in her duties and makes no effort to develop in her patients good resolutions, hope in the future and faith in themselves, is almost without moral responsibility. They are both fit companions for each other, but unworthy of the high calling into which they have un-

fortunately blundered. Woe betide the poor victim who falls into their clutches.

As I have proceeded with this paper the fear first entertained in preparing it, that some important warning or suggestion might be omitted, has entirely disappeared. Looking upon this class of 1915 I realize that perhaps much in it could have been left out as far as they are concerned. Surely the bright faces we see here before us reflect nothing but what is best in their profession. I confess I have little fears for them. They are joining an army of the most loyal and devoted women in the world. Loyal to the great cause of relieving the sick and the suffering. Devoted, even unto death, to the high standards and ethics of their noble profession. In the mind of every man, the very word "nurse" carries with it memories of his early childhood, of his home, of his mother, of his wife or sisters. When we are sick and suffering we are as children, whether on the battlefield or in construction camps, or in the private or free wards in the many hospitals throughout the world. We want our home. These girls, "God bless them all," bring it back to us as nothing else could.

"OUR GENERAL DIES."

The growing pallor of his face
Well matched the spotless pillow-case,
With frowning brow at last grown mild
He lay as helpless as a child.
That voice, anon, a bugle call,
Was lost to us across the hall;
Quick ears are deaf to stifled sighs
And anguished words, "Our General dies,"
Keen eyes grown dim, yet held in sight
The features of the nurse in white,
While stiffening fingers sought her hand,
His thoughts sped back to fatherland;
A smile upon cold lips implied
He dreamed of home—then died.

FATAL POST-OPERATIVE PULMONARY EMBOLISM.

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THE almost entire safety with which even the most extensive operative procedures can be carried out in our day tends, quite unconsciously, to make the surgeon forget that all the wonderful advances in the surgical art have not been able to eliminate the possibility of certain grave accidents. Even the conscientious surgeon is apt to get into the rut of advising and performing operations

without due consideration of these possibilities, until from time to time some tragedy brings him up with a jerk to a realization of the fact that surgery is indeed a very serious business. While such accidents may be reduced to a minimum by good judgment and good technique, it is nevertheless true, to paraphrase an old maxim, that accidents will happen even in the best-regulated surgical clinics. Fortunately, the majority of such accidents merely increase the patient's pain or discomfort, or lengthen the period of convalescence from the operation. On the other hand, every surgeon must sooner or later experience that unhappy state of mind which comes when death snatches away a patient upon whom some elective and perhaps very simple operation had been performed.

Of the grave post-operative complications, the most common are infection, hemorrhage and embolism. The first two of these are in large measure preventable by proper surgical technique. The prevention of embolism, however, is a much more difficult problem, inasmuch as we are still in large measure ignorant of the factors responsible for its occurrence.

While I have seen quite a number of cases of pulmonary embolism during my surgical experience, it is only recently that I encountered my first fatal case. It made a deep impression on me. The following is a brief history of the case:

Mrs. A. S., age 34, had suffered for four years with occasional but increasingly frequent attacks of typical gallstone colic. "Indigestion" was more or less constant, with belching and epigastric distress. The gall bladder region was sensitive to pressure. In addition, she had for many years had a right-sided inguinal hernia, which was gradually increasing in size. The general condition was good.

Operation.—Patient entered Mercy Hospital on June 19, 1913, and on the following day cholecystostomy and herniotomy were performed. The gall bladder was moderately distended, the walls being only slightly thickened. The omentum was adherent to its under surface. Fifty-three calculi were removed from the gall bladder and the cystic duct. Most of them were small, the largest being 1½ cm. in diameter. There were no stones in the common bile duct. Herniotomy by the Bassini method was done for the relief of the right-sided hernia. The operation was a comparatively simple one, requiring only about 50 minutes, the patient leaving the table in excellent condition.

Death from pulmonary embolism on sixteenth day. July 4, the sixteenth day after the operation, the patient was sitting up in a chair when I made my visit. The stitches had been removed from both wounds, union being perfect in each instance. She had been allowed to sit up on the fourteenth day, her convalescence having up to this time been uneventful. On this, the third day she had been sitting up, the patient was in excellent condition, laughing and chattering in a lively manner. The gall bladder was, of course, still being drained. The patient remarked that the dressings were

wet from bile, and I suggested that she lie down so that they might be changed. She stepped from the chair to the bed and stretched out. As she did so I heard a loud gasp, and on looking at her, saw that her face was fixed and staring. The pulse had stopped at once, and although she gasped feebly once or twice more, death had evidently taken place almost instantaneously. There was no response to the hypodermic injection of camphor and the various other measures which were resorted to.

Thrombosis, carrying with it the possibility of embolism, may develop after any type of operation. There seems to be a much smaller element of risk in the case of operations in the upper abdomen than of those involving the pelvic viscera. Prostatectomy and hysterectomy especially seem to be fraught with this form of risk. An idea of the frequency of thrombosis as a post-operative complication may be found from the statistics of Schenck (1), who finds that in 3204 operations for uterine myoma in 12 different clinics, thrombosis developed in 96, or 3 per cent.

McLean (2) found that of 1310 laparotomies, 1.9 per cent. were followed by thrombosis and embolism. There were in this series 8 cases of fatal pulmonary embolism, 3 of pulmonary embolism in which the patients recovered, 2 of pulmonary embolism followed by abscess formation with recovery, and 1 of embolism of the liver, followed by hepatic abscess and recovery.

Pulmonary embolism, when it occurs after operation, usually does so between the eighth and twentieth day of convalescence. Occasionally, however, the accident may occur during the first week, while, on the other hand, its occurrence is sometimes much later than the twentieth day. For example, McLean speaks of a case in which fatal embolism occurred two months after an operation for uterine myoma.

In the majority of cases, fortunately, the embolism is not associated with a fatal termination. It is certain that embolism is often not recognized, more especially when it involves a small vessel or when the embolus is lodged in an organ in which vascular anastomosis is free. I shall not, in this brief discussion, speak of the symptomatology in cases of non-fatal embolism. The rapidity with which death occurs in fatal pulmonary embolism is quite variable. In a critical analysis of 16 fatal cases Busch (3) found that death was instantaneous in one-fourth (4). In the others 10 minutes or more elapsed before death took place.

The great amount of study which has been given to the problem of the etiology of post-operative thrombosis and embolism has not as yet resulted in anything approaching unanimity in the views on this subject. It may be stated that the consensus of opinion is to the effect that the factor of greatest importance in the production of thrombosis and embolism is a low-grade infection, so slight as to give rise to no clinical manifestations except perhaps a trifling degree of fever.

Other factors on which more or less stress has been laid are trauma, slowing of the blood stream, and chemical alteratins in

the composition of the blood. McLean has recently reported experimental observations which seem to indicate that destruction of the endothelial cells is not *per se* a cause of thrombi, but that necrosis of tissue does play an important part. Ribbert (4), on the other hand, concludes from a study of the long, loose thrombi in fatal cases of pulmonary embolism that chemical changes in the composition of the blood are chiefly responsible, and that the important factor in their prevention consists in reducing the coagulating power of the blood.

In view of the uncertainty which exists as to the etiology of pulmonary embolism, it is not surprising that no ironclad rules can be laid down for the prevention of this grave complication. In many respects, indeed, the advice given by authors is very contradictory, especially with regard to the question of the influence of the length of time the patient is kept in bed after operation. Those who advocate early sitting up after operation urge that early moving about prevents the stagnation of the blood current, which by some is regarded as of importance in the production of thrombosis. On the other hand, certainly it cannot be denied that such early mobility must increase the possibility of bits of the thrombosis being swept away with the occurrence of embolism. Bearing this in mind, it would certainly seem that there is an element of danger in the present-day tendency to get patients out of bed at an inordinately early period after operation. This is especially true because thrombosis often occurs in the iliac veins, and hence may pass unnoticed.

Another controllable factor which no doubt lessens the frequency of thrombosis and embolism is gentle handling of the tissues and the minimizing of such operative traumatism as that produced by brutal tugging at retractors. The importance of care in this regard is universally recognized, but not by any means universally exemplified in surgical clinics.

Finally, a conscientious observance of the cardinal surgical principle of asepsis plays probably the most important role in diminishing the frequency of post-operative thrombosis and embolism, in view of what we have said as to the importance of low-grade infection in the causation of this complication. Once extensive pulmonary embolism has occurred, treatment is of little avail, the patient's chances for life being dependent largely upon her general resisting powers, and even more upon the size and location of the embolism. If death does not occur instantaneously, such rapidly-acting stimulants as camphor or ether are indicated, while the intense pain and distress often makes the administration of morphin necessary. The plan of operative removal of the embolus, as described by Trendelenberg, has so far been attended by unsatisfactory results. According to Busch, the Trendelenberg operation has so far been performed in 13 patients, but no patient has been saved. One case (Kruger's) lived for five days after the operation, dying of secondary infection.

The purpose of this brief communication has been not so much

to discuss the symptomatology or treatment of pulmonary embolism in general as to emphasize the ever-present danger of the occurrence of even fatal embolism after any form of abdominal or pelvic operation. Since fatal embolism is, comparatively speaking, an infrequent post-operative complication, it is apt to be overlooked by the surgeon in the consideration of the risks of a proposed operative procedure. Its occasional occurrence, therefore, is all the more distressing.

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POLLINOSIS (HAY FEVER)—A CONSIDERATION OF ITS TREATMENT BY ACTIVE IMMUNIZATION.

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and

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Definition.—Hay fever, or pollinosis, is a disease which manifests itself in the spring, from the latter part of May or the early part of June, until the middle or end of July, and in the autumn from the middle of August to the end of September or early October. It is characterized by itching of the eyes and lachrymation, itching of the palate and face, sneezing, serous discharge from the nose, obstructed breathing, and, if the attack is very severe, sooner or later coughing, difficult breathing accompanied by wheezing.

It is caused by the action of pollen grains from flowering plants. The pollen is carried by air currents and inspired with the air we breathe; if the recipient is susceptible to the particular pollen, an attack of pollinosis promptly ensues.

Etiology.—Many theories have been advanced as to the cause of hay fever, and a great number of speculations far afield of the true etiology have been entertained. Numerous physicans, even at the present time, consider that this disease is a neurosis. In 1902, Rudolph published a paper in which he stated that pollinosis should be classed with the degenerative psychoses of which he described two varieties, the hysteroid and the epileptoid forms. When bacteria were found to be the causative agents of various diseases, certain micro-organisms were then suggested as operative in pollinosis. Prominent among these were various vibrios,

and today vaccines of mixed bacteria are put forth commercially as a cure for this condition.

Elliotson suspected that pollen was the etiological factor in "hay fever," and in 1873, Blackley, as a result of various experiments with pollen, concluded that these small grains which were carried in the air during the flowering season of plants were the undoubted causative factor. But it was left to Dunbar and his coworkers to settle the question definitely. They examined the pollen of 30 varieties of graminaceae and cyperaceae and found them active; also active were swamp-pink, lily of the valley, hairy Solomon's Seal, rape and spinach. Their experiments led them to examine the plant which caused the condition in the United States, and they found that ragweed, golden-rod, asters and chrysanthemums caused symptoms when applied to the mucous membranes of susceptible individuals, while normal controls did not react.

There must necessarily be predisposing causes to this disease, as the vast majority of mankind is not affected by pollen, while to a small minority the contents of these kernels are intensely toxic. Thus we recognize two factors which are of importance in the etiology of "hay fever"—nasal and pharyngeal pathological conditions and heredity.

Among the nasal and pharyngeal conditions which would predispose to this disease are any obstructions, such as enlarged turbinate bodies, deviated septa, spurs, and adenoid vegetations; also any diseased conditions of the mucous membranes as are found in atrophic and hypertrophic rhinitis, and suppurative accessory sinus disease.

Heredity is an important factor in supplying subjects for this disease. There seems to be a particular permeability of the skin and mucous membranes transmitted from the parent who has suffered or is suffering with this or some allied ailment to his or her offspring. Among our patients were two brothers with hay fever, a brother and sister with hay fever, a lady with hay fever whose son suffers with asthma, two cases in which a father and one or more children suffer with hay fever, a young lady with hay fever who had intense eczema as a child and whose mother suffers with eczema, rebellious to treatment.

It is probably that pollinosis occurs the world over. We know it to be endemic in Europe, Africa, Asia and North America.

More males are affected than females.

It is found in all strata of society, and the reason that some writers think that it occurs mostly in cultured and highly strung people is because the poorer and less cultured classes are not so fastidious and are unable to pay much heed to a "cold in the head" which lasts six weeks every year.

Pathology.—Hay fever or pollinosis is not a fatal condition, and there exists no autopsy records of patients dying while suffering from symptoms of "hay fever." Thus our idea of the pathogenesis of this disease is based mainly on experimental and deduced evidence.

According to Dunbar, the pollen extract, which contains about 40 per cent. of protein, is a "toxin," the active portion of the protein being the albumin fraction. From our experiments and those of Koessler, we are not in accord with his views, because the action of this protein does not conform to the postulates of Ehrlich as regards true toxins, such as the toxin of diphtheria and tetanus. Nevertheless, pollen protein holds a position which is unique, inasmuch as it has toxin and non-toxin attributes. Although it is thermostabile, non-toxic to the majority of mankind and animals, the intoxication with pollen shows no incubation time (its action is almost immediate), still it is toxic in very minute doses, but only to sensitive individuals; it is completely specific; it produces antibodies when injected into animals and man, as demonstrated by complement fixation, but its toxin-antitoxin neutralization curve does not follow the law of multiple proportions.

In 1906 Wolff-Eisner suggested that this disease was a condition of anaphylaxis. Dunbar, in 1912, stated this condition is not one of anaphylaxis, based upon the following experimental data: He was not able to cause passive anaphylaxis in guinea pigs by injecting intravenously serum from hay-fever patients and 24 hours later injected intravenously a quantity of pollen extract; also that a condition of antianaphylaxis does not occur after the hay-fever attack. But, he has produced symptoms resembling anaphylaxis in hay-fever patients by injecting a large dose of pollen extract while normal controls gave no symptoms whatsoever with the same dose. He also showed that the pollen extract was capable of producing symptoms similar to anaphylactic shock in guinea pigs which had been previously injected with the same antigen.

We are opposed to Dunbar's view on this question from his experimental facts and our own experimental deductions. Our experience has shown that the amount of antibody in the serum of untreated pollinosis patients, excepting during the attack, is so small that it would be well-nigh impossible to obtain, and were it possible to obtain, it would be impossible to inject a sufficient amount of serum to sensitize the guinea pig.

On the other hand, Koessler was able to produce passive anaphylaxis in guinea pigs. He obtained the blood from patients while in the third week of their seasonal attack. Four c. c. of this serum was injected intracardially into guinea pigs, and 24 hours later they were reinjected with the same serum. All the animals so treated showed severe typical symptoms of anaphylaxis. Dunbar used hay-fever patients preceding the attack, while Koessler took the blood during the attack; therefore the discrepancy in the results.

Koessler tried to show that the pollen protein circulated freely in the blood of patients suffering with a seasonal attack of hay fever, and for this purpose obtained enough blood from a patient who had severe asthmatic symptoms to give 20 c. c. of serum. Four guinea pigs were injected subcutaneously with 5 c. c. of serum, and 12 to 18 days later were injected intracardially with 1 c. c. of

1-10,000 dilution of ragweed pollen extract, and 3 of the 4 guinea pigs showed severe typical symptoms of anaphylaxis. From this experiment he deduced that in the serum of his patient there was a pollen protein. This may be true, but it is possible to theorize on this from a different premise. It can be argued that the blood injected contained enough amboceptor to sensitize the guinea pigs against subsequent injection of the specific antigen.

Pollinosis is due, as previously stated, to a sensitization of an individual by the pollen contents through the respiratory tract. There must, however, be at the time of sensitization an abrasion of the mucous membrane so as to make absorption possible.

Symptoms:

A—Subjective.—When the annual attack is about due, the patient first notices an itching at the inner side of the eyes, which may disappear only to recur with greater intensity in a few days. This usually is accompanied by itching of the nose, the skin of the face and palate, which may continue for some time without becoming worse, but in due time the patient experiences fullness in the head, stuffiness of the nose, and in the morning, particularly, attacks of sneezing, followed by a sero-mucous discharge. At this time the eyelids itch intensely, so much so that the patient can hardly refrain from rubbing. Itching of the palate is also pronounced, and the patient very often scratches the palate with the finger. Weakness is complained of, and there is a disinclination to stir about. Perspiration is oftimes free. This condition continues, abating and increasing from time to time. If the nose is completely obstructed, as it usually is, sleeping is interfered with, and soon a cough supervenes and to the clinical picture is added attacks of shortness of breath and wheezing, particularly at night. At the end of the seasonal attack all of these symptoms gradually subside, leaving no evidence of the suffering and discomfort which has been endured. The spring variety usually does not last longer than four weeks, while the fall variety lasts about six weeks. Occasionally patients present themselves who suffer with "hay fever" symptoms throughout the entire summer.

B—Objective.—The eyelids appear red, the conjunctival blood vessels are engorged and the mucous membrane between them is whitish pink. There are occasionally small papular elevations in the skin of the face. The mucous membrane of the nose is swollen, the blood vessels are engorged and the mucous membrane between these blood vessels is also whitish pink. The palatal blood vessels are prominent and the intervening mucous membrane is anemic. The temperature of the patient ranges between 98 degrees and 101 degrees, seldom reaching 102 degrees. From this description it can readily be seen that the mucous membranes are not inflamed. They are more inclined to be pale, while the blood vessels which course through them are engorged.

Diagnosis.—Given a patient who periodically each spring or summer becomes ill with a sickness which corresponds to the description mentioned in the symptomatology, and if these symptoms

begin and end at approximately the same time each year, it can safely be said that the patient is suffering with pollen disease. The question before us now is, "Which pollen is operative in a given case?" To answer this query it is necessary to test the patient with the pollen of all the flowers which bloom during the time of the attack.

Methods.—There are three methods by which it is possible to know which pollen is operative in a given case. A drop of a weak extract of a given pollen may be instilled into the lower conjunctival sac of the eye. The one which produces congestion and swelling of the caruncle and mucous membrane of the lid is the one to which the patient is sensitive. A very minute quantity of the extract may be injected intracutaneously, and the pollen to which that patient is anaphylactic will cause swelling and redness around the spot where the pollen extract is deposited. A very minute quantity of pure pollen may be gently rubbed into a small scarification wound of the skin and a wheel will develop at and around this point of scarification if the patient is susceptible to that pollen. Some patients are sensitive to more than one pollen, and it seems that there may be in some cases a general susceptibility to all pollen, so that only when the reactions are marked is it possible to conclude that this is the specific pollen which is causative of hay fever in a given case.

To be sure that no other factor than the pollen is causing the reaction, it is advisable that a negative control be established by simultaneous vaccination of another patient. No swelling should occur in the control.

The majority of patients suffering with pollen disease are susceptible to the pollen of timothy, red-top and bluegrass, or to ragweed and golden-rod. Only the exceptional patient is anaphylactic to the pollen of other plants, but it is just these exceptional cases that give us the most trouble.

Prognosis.—Many patients become progressively worse each season, while with others the symptoms are milder after each attack. We are of the opinion that every case can be helped, the symptoms stopped or abated in severity, if the patient's resistance is such as to enable him to build up an immunity.

TREATMENT.

1. *Palliative.*—While the patients are suffering with the attack, it is possible to give them relief with drugs, particularly cocaine and adrenalin. Weak solutions of these may be instilled into the eyes and applied to the nose. In this way the itching of the eyes and obstructed breathing are mitigated. As soon as the effects of these drugs pass away, the patient suffers as before. Their continuous exhibition is fraught with dangers—the habit of cocaine snuffing may be acquired, and adrenalin has been found to cause an arteriosclerosis of the large blood vessels, due to the increased blood pressure which it produces.

Patients suffering with this disease may sojourn to localities at which the causative pollen-bearing flowers do not grow, such as

Fire Island, Green Mountains, White Mountains, and the higher altitudes of the Adirondack Mountains. A pilgrimage to these places must be made each year, and they must remain away the entire six weeks to avoid the disease.

2. *Curative.*—Before entering into a description of the methods advised for curative purposes, it is not amiss at this point to dilate upon the theoretical factors which have to be considered to understand the basis of such treatment. We have stated above that pollen disease is an anaphylaxis, and antianaphylaxis must be accomplished before a cure can be effected.

According to Rosenau, Anderson, Otto and others, if on the seventh, eighth or ninth day after the first injection, a massive rose of antigen is injected into the animal, the symptoms of anaphylaxis do not occur on exhibiting a dose of antigen on the twelfth day. This refractory condition so produced is called anti-anaphylaxis. This same animal will, 20 to 30 days later, become slightly sensitive to the antigen; the symptoms being mild, fatal reactions rarely occurring. The reason for this refractory condition so produced is answered by the researches of Neufeld and Dold, Kraus, Ritz and Sachs, Izar, Friedberg and Mita, Zinsser, and Bordet, who, working on the quantities of antigen, amboceptor and alexin, which would be most favorable for the production of anaphylatoxin in vitro, found that large quantities of the antigen as compared to the other ingredients inhibited the production of anaphylatoxin. They also showed that an excess of the amboceptor will produce the same result. In view of these facts, they conclude that the great concentration of antigen in the blood of the refractory animal inhibited the production of sufficient anaphylatoxin to cause symptoms.

Zinsser and Dwyer, working with typhoid anaphylatoxin, showed that guinea pigs treated with a sub-lethal dose of anaphylatoxin developed a tolerance which enabled them to resist one and one-half to two units of the poison, the tolerance developing within three days and lasting to a slight degree for as long as two months.

From the foregoing facts, hypothetically, it should be possible to treat patients suffering with pollinosis by one of four methods:

1. By injecting a dose of pollen extract just before the "hay fever" time and repeating the procedure in 20 to 30 days.

2. By injecting a large quantity of immune serum during the attack. This we have accomplished in one of our cases. From G. G., a patient who received 45 injections of ragweed extract, we took about two ounces of blood from a vein; after the proper precautions of a Wassermann reaction, we injected 8 c. c. of the serum subcutaneously into a patient of 13 years, suffering at the time with a violent attack of "hay fever." Within 36 hours this little patient had no symptoms of hay fever and no signs of the disease returned during the entire season.

3. By injecting very small amounts of pollen extract at intervals of 10 days or less, so that only minute quantities of anaphylatoxin be formed and the patient's tolerance raised.

4. By injecting very small doses of anaphylatoxin made in vitro to produce the same results as in method number 3.

A. *Passive Immunization.*—Weichhart has placed on the market a prepartion which he terms Graminol. It is a serum taken from the cattle during the "hay fever" time. Graminol does not contain specific antibodies, but it is said to give relief in from 61 to 75 per cent. of cases, according to the report of the German Hay Fever Association.

By repeated injections of pollen extract into horses and rabbits, Dunbar and his associates were able to produce an immunity in these animals, as tested by the complement fixation reaction, especially in rabbits, whose serum in some cases would fix complement in dilutions of 1-50,000. Dunbar has transferred passive immunity to individuals by injecting the serum of these animals.

From these experiments he has evolved his Pollantin, which he considers a specific in the treatment of pollinosis. Pollantin is a horse serum antitoxin and in itself can produce the condition of anaphylaxis by repeated use, and thus interferes with the cure that it is supposed to accomplish. This product, in our hands, has been a failure, notwithstanding that the German Hay Fever Association has reported 59 to 69 per cent. of successful results with Pollantin.

The action of these two preparations may be explained as follows: They undoubtedly contain antibodies; in the case of Pollantin, the antibodies are specific, while those in Graminol are not specific; nevertheless, these antibodies furnish the necessary element for the binding of the complement in the secretions of the respiratory mucous membranes to the polien contents or antigen. This effects a rapid digestion of the antigen into harmless products, such as amino acids, and thus the toxic material does not remain long enough in contact with the tissues to produce symptoms.

B. *Active Immunization.*—Holbrook Curtis was probably the first investigator to effect an active immunity in pollen disease. This observer as early as 1900 reported favorably on this subject. He used aqueous and alcoholic extracts of the flowers and pollen of ragweed, golden-rod and lily of the valley. These were administered subcutaneously and by mouth.

Dunbar, in the earlier period of his investigations on this subject, tried to produce active immunization by injecting the pollen extract, but came to the conclusion that such immunity could not be secured by this means. He failed probably because the pollen which he used may not have been the only pollen which caused the disease in the cases which he treated; furthermore, he used an excessive dosage, which, from our present experience, breaks down the defensive potentialities of the patient, thus frustrating the result which he desired.

Noon and Freeman, in 1911, published the results of their work on the active immunization of pollinosis by injecting gradually increasing doses of timothy grass pollen extract. They reported 18

cases. Excellent results were obtained in three, thirteen were markedly improved, while two cases were not benefited.

In a preliminary report, Clowes in 1913 gave his results on the treatment of eight cases of pollinosis. All of the cases were satisfactorily influenced.

Koessler, between 1910 and 1914, had treated 41 cases, of which four were cured, twenty-nine markedly improved and eight were not benefited.

Eleven cases were treated in 1914, before and during the season for autumnal catarrh. Six cases were treated in advance of the attack. One of these was cured for the season, four had very mild symptoms, and one was not improved. Five cases were treated during the attack. The symptoms of four subsided after receiving from one to four injections, whereas one patient received no benefit. Altogether, there were five cures for the season. In four cases there was marked improvement. Of the two cases that were not improved, one had a polypoidal degeneration of the middle turbinate, with underlying bone necrosis. The patient had distinct asthmatic attacks every night, and it was impossible to say whether the attacks were due to his pollinosis or to the local nasal condition. The other was a physician, who reacted both to ragweed and golden-rod pollen. He received in all 33 injections, alternating the ragweed and the golden-rod extracts. He came very irregularly for treatment. It is possible that at times the treatment was too intensive and his physical condition was so poor that possibly he could not develop a tolerance.

Nine of our cases reacted to ragweed pollen and two reacted to that of both ragweed and golden-rod. Both of these latter cases received both golden-rod and ragweed antigen hypodermically. One was cured, but the other was not improved. When a patient is sensitive to more than one pollen, individual doses of each extract should be administered, in order to determine when the tolerance is sufficiently raised for each. Mixing the antigen is too imperical.

There are two ways of determining when a patient has become sufficiently immune to warrant discontinuance of the treatment.

1. With a complement fixation test.
2. From the size, intensity and duration of the wheal produced by skin scarification at different times, namely, before and during the treatment.

The scarification method is the one we have generally used to diagnose and determine the degree of immunity induced. The wheal produced by the initial vaccination is measured, its time of appearance and its duration noted. After five or six treatments the patient is revaccinated and the wheal is observed again as before, and compared with the former results. When the wheal is very small or does not appear, the patient is sufficiently immune and probably will go through the season with very mild symptoms or none at all.

Naturally, the question arises whether such immunization is per-

manent. We believe it is safe to say that, while the immunity may not be successfully carried over to the succeeding year, recurrences are much milder at least and patients require less re-immunization. An attack the following year can probably be overcome by very few injections.

The best time to begin treatment is probably about 10 weeks before the attack may be expected to occur. Regularity of attendance at about weekly intervals is important.

We feel that cures were not accomplished in two cases because treatment was begun too early, and in two other cases because the patients were treated too irregularly. Furthermore, it is probable that some of these cases were susceptible to pollen other than that of ragweed and golden-rod. At the time of our initial work we were not prepared with as large a variety of pollens as we now possess for the continuance of this work along broader lines, which we hope in the future will enable us to bring about a large percentage of cases influenced by our attempts at immunization.

45 East 60th Street.

Book Reviews.

THE CANCER PROBLEM. By William Seaman Bainbridge, A.M., M.D., Sc. D., Professor of Surgery, New York Polytechnic Medical School and Hospital; Surgeon and Secretary of Committee of Scientific Research, New York Skin and Cancer Hospital; President, First International Congress for the Studies of Tumors and Cancers, Heidelberg, 1906. New York: The Macmillan Company. 1914. Cloth, $4 net.

Cancer is one of the problems of medicine still defying solution as regards early diagnosis, prevention and guarantee of permanency of cure. In fact it is the most important problem confronting the profession today, as in civilized countries alone more than half a million fall victims annually. It is therefore especially important that ever and ever the attention of the profession and laity be called to the ravages wrought by this malady. As long as the people feel secure they will fail to recognize the importance of devising ways and means for conquering cancer. It was with this idea in view that many of the leading journals of the country recently devoted an issue to the cancer problem, and it is with this idea in view that Dr. W. S. Bainbridge has just issued a book dealing with the various phases of cancer, its early history, its modern history, the various agencies formed for its suppression, theories as regards its causation, statistical considerations, histopathology, a résumé of the world's work in cancer research, diagnosis, and lines of treatment, etc. No more important work has been issued to the profession within recent years. Cancer has become a human scourge, which bids fair, unless conquered, to annihilate the race. Undoubtedly it is on the increase and is ever

attacking younger and younger people. Bainbridge's book thoroughly posts one on each and every feature of the cancer problem. It neither underestimates or exaggerates the importance of the problem, but plainly, succinctly and tersely tells what is what, and what may be expected from constant agitation of the question. Every physician, as well as every intelligent laymen, should read the book, and then all will be able more intelligently to grapple with the malignant problem.

Fractures and Dislocations. By Miller E. Preston, A.B., M.D., First Lieutenant, M. R. C., U. S. A.; formerly Police Surgeon, City and County of Denver; Surgical Examiner, Colorado State Board of Medical Examiners; Instructor in Anatomy, University of Denver, and Visiting Gynecologist to City and County Hospital, Denver, Colorado. With a Chapter on Röentgenology. By H. G. Stover, M.D., Professor of Röentgenology, School of Medicine, University of Colorado; Member of American Röentgen-Ray Society; Visiting Röentgenologist to City and County Hospital, St. Joseph's Hospital and Children's Hospital, Denver, Colorado. 860 illustrations. St. Louis: C. V. Mosby Company. Cloth. $6.50 net. 1915.

Fracture may be followed by such dire results to the victim that a thorough grounding in the principles of handling fractures is absolutely essential to student and general practitioner alike. Since the introduction of the X-ray there has been a tendency on the part of physicians, and especially surgeons, to resort to operative measures owing to the false impression conveyed as to the extent of the bone deformity. Operation is all right in its place, *i. e.,* where one is to suppose loss of function will result without operation. We have in mind a patient whose radiograph suggested that operation was the best procedure to give the patient a good functional result. Therefore he was advised thus, consented and was duly operated. Lo, to the operators' chagrin, a subsequent radiograph showed worse position under bone plating than by non-operative measures. But here is the lesson: the surgeon under the circumstances decided to await developments, and, much to his satisfaction, he was rewarded with an excellent functional result, the patient being thoroughly satisfied and being able to resume his work of laborer without any inconvenience or drawbacks. To us this case is a lesson in being less hasty in advising operation, and the reviewer thoroughly believes this operative paranoia in fracture has about reached the crest of its popularity, and many a fracture victim will be spared from now on the knife. It is these and other phases that the book before us considers, and be it to the credit of the writer in a very excellent manner. While conservative, he is not too much so, showing everywhere a nice balance between the method to be employed in a certain fracture under certain circumstances. Taken all in all, this book will be

found an excellent guide to both student and practicing physician. It is richly illustrated with, on the whole, original photographs, taken mostly soon after the injury was received. Another feature worthy of note is the introduction of Doctor Albee's work on autogenous bone grafting. This feature alone should render the work a valuable contribution to surgical literature, as it is not found in any other publication. Doctor Preston has given the profession a very meritorious work, in fact a work which should gain immediate popularity. It is practical, well written and profusely embellished with illustrations. It lacks nothing in completeness. It gives us, therefore, great pleasure to highly commend it to our readers.

THE TREATMENT OF FRACTURES. With Notes Upon a Few Common Dislocations. By Charles Locke Scudder, M.D., Surgeon to the Massachusetts General Hospital; Associate in Surgery at the Harvard Medical School; Fellow American Surgical Association; Member of the American Urological Association, and of the American Society of Clinical Surgery. Eighth edition, revised. With 1057 illustrations. Philadelphia and London: W. B. Saunders Company. Baltimore: The Medical Standard Book Co. 1915. Cloth. $6 net.

Scudder's "Treatment of Fractures" needs no introduction. Its usefulness has already been proven by the number of friends which previous editions have made. Since the appearance of the last edition a great amount of work has been done in the implantation of bone graft in delayed fracture. It is this aspect of fracture surgery that has received in the present edition the prominence demanded by its importance. Fractures which will not unite by any other method of treatment have united by the implantation of a piece of bone between the fractured segments. Dr. Scudder explains the technic of bone grafting thoroughly and the method which he has found most satisfactory in his hands, as well as the failures and the cause of such. The book is now, therefore, brought up to the minute, and with the additions incorporated should and will prove as useful as any of its predecessors. As heretofore, the treatment, symptomatology, etiology and prognosis will be found rational, conservative and thoroughly reliable. The numerous illustrations add materially to the scope of the book, which is written in that inimitable style of the author.

DIFFERENTIAL DIAGNOSIS. Volume II. Presented Through an Analysis of 317 Cases. By Richard C. Cabot, M.D., Assistant Professor of Clinical Medicine, Harvard University Medical School, Boston; Chief of the West Medical Service at the Massachusetts General Hospital. Profusely illustrated. Philadelphia and London: W. B. Saunders Company. Baltimore: The Medical Standard Book Co. 1914. Cloth. $5.50 net.

In this book 19 common symptoms have been analyzed, dissected

and discussed by the case system. Amongst the subjects treated are abdominal and other tumors, vertigo, diarrhea, dyspepsia, hemoptysis, hematemesis, melena, hoarseness, pallor, polyuria, tremor, etc. In nowise can a condition be better fixed in the student's mind than by the citation of a history in connection with a discussion as to the possible disease leading up to the symptom or symptoms. Doctor Cabot is a real expert in this method of instruction. If one had not had the pleasure to listen to his pedagogic methods, one would naturally come to the same conclusion from the book. The book is sure to exert an immense influence by showing students how to think logically. It will teach the lesson of thoroughness, carefulness and patience as a necessary attribute in arriving at diagnoses.

Operative Gynecology. By Harry Sturgeon Crossen, M.D., F.A.C.S., Associate in Gynecology, Washington University Medical School, and Associate Gynecologist to the Barnes Hospital; Gynecologist to St. Luke's Hospital, Missouri Baptist Sanitarium, and St. Louis Mullanphy Hospital; Fellow of the American Gynecological Society and of the American Association of Obstetricians and Gynecologists. Seven hundred and seventy original illustrations. St. Louis: C. V. Mosby Company. 1915. Cloth. $7.50 net.

As the name implies, the above work is devoted exclusively to operative gynecology. Both the external and internal female organs of generation are subject to surgical attack for various disorders. The author endeavors to give to the profession those procedures which he has found most available, practical and useful in each and every malady of these organs. The technic of abdominal section, including both the pre- and post-operative, is simply but forcibly set forth, likewise those procedures most used in vaginal, pudendal, the uterus and its adnexa. A most attractive feature of the volume is the illustrations. This feature will appeal to all, as the cuts are works of art and will materially aid in digesting the text. Encompassing as it does the very latest operative ideas in gynecological technic, and presenting them in a systematic manner, cannot but help rendering the volume attractive to the gynecologist, as well as general surgeon. It therefore gives us great pleasure to heartily recommend the book to our readers.

Swat the Fly. By Eleanor Gates, author of "The Poor Little Rich Girl," "We Are Seven," etc. New York: The Arrow Publishing Co. Cloth, 25 cents. 1915.

This is an one-act fantasy emphasizing the importance of slaughtering the fly, a most prolific agent, as you are all aware, in the spread of disease. The story is told in a fashion so direct that he who has eyes must see and he who has ears must believe. It should go a long way in educating the public as to the fly nuisance and the many loathsome diseases which this insect is capable of disseminating.

MARYLAND MEDICAL JOURNAL

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BALTIMORE, SEPTEMBER, 1915

THE MIDWIFE, WHY?

TO PRACTICE medicine one must have obtained at least a high-school education, besides a year's college equivalent in modern language, biology, physics and chemistry. But the requirements do not stop here; the doctor in the making must have put in four years' residence at a college of medicine and must have received its degree. Is he able to engage in the practice of his chosen profession after this indenture? By all means, no. So as to protect the laity from incompetency further restrictions are thrown around the aspirant to medical glory in the form of the boards of medical licensure, before whom he must appear and submit satisfactory evidence that he is competent to engage in the practice of medicine. Yet, if, by a streak of bad luck, the applicant should fail to meet the requirements of the board before whom he appeared, the penalty of engaging in practice would be prosecution for illegal practice of medicine, with a probable jail sentence appended as a slight reminder not to transgress again. Such, then, are the legal restrictions thrown around the practice of medicine—a fairly comprehensive literary education, four years in a school of medicine and the successful passing of an examination before a State board of medical examiners. Now, let us examine another picture—that of the midwife. At the outset we are willing to admit that conditions here have been somewhat improved within the past few years, but conditions even so are far from satisfactory. Why should anyone be permitted to practice a most important branch of medicine without a general medical course? Why should anyone without an idea of the English language be entrusted with the handling of cases the outcome of which means so much to the State? Why should anyone without the least idea of chemistry, anatomy, physiology, pathology, etc., of labor, be given the privilege of dealing in this, one of the most important branches of medicine? It is most arrant rot and nonsense to justify ourselves on the grounds that the institution has been handed down from our progenitors. Times have changed,

and so should we with them. Progress has been made in all other lines of medicine, so here also, and with these changes should come a determined attack by the medical profession upon an unbearable condition. It is not sufficient to say that laws have been promulgated which make it a misdemeanor for a midwife to handle a case of pregnancy with complications. For how is one to prove that the midwife is or has actually engaged in the treatment of any particular case? We have it from an undoubtedly trustworthy source that a midwife has administered ergot, and with such an outcome and so ignorantly as to cause severe enough contractions of the uterus as to produce rupture. We also have it from the same source that there are a number of midwives in his section of the city who cannot speak English. And, again, this informant tells us that he positively knows that these same women resort to internal examination of their patients and that they do not employ silver nitrate. This physician only recently told us that he at this very moment has a child, who was delivered by a midwife, under his care for gonorrheal ophthalmia. What would be the result if a graduate in medicine failed to pass the State board, but hung out a sign as Mr. So-and-So, practitioner of midwifery? Go a step further. Say that this unfortunate graduate had done so well in obstetrics as to make a perfect mark before the college authorities, and even before the State board made a creditable examination in this particular subject? To our mind, there is not the least bit of a doubt but that he would be prosecuted for the illegal practice of medicine. If, then, a man of this caliber is prohibited, by legal restrictions; if, then, one so much superior to the dirty old midwife, who, at most, may have only seen a case or two before entering upon her vocation, is prevented by law from practicing midwifery, surely there is no earthly reason why the midwife evil should be a thorn in the medical profession. Right is right, and wrong is wrong, no matter where met. If it is right and just that the doctor of medicine shall pass an examination before engaging in midwifery, it is only just that the midwife should be compelled to meet the same requirements. Therefore, let us all work for the perpetual abolishment of a system so fraught with the potentialities of dire results to mother and offspring. The medical profession owes this much to the indigent. No time is better than the present to start a campaign against the midwife. Let physicians send in their experiences, and the Maryland Medical Journal will be only too glad to publish them, so that the Committee on Midwifery of the Medical and Chirurgical Faculty will have something tangible on which to work.

Summary of Results of Examination Held by the Board of Medical Examiners of Maryland, June 15, 16, 17 and 18, 1915.

No.	College of Graduation.	Anatomy	Surgery	Pathology	Obstetrics	Practice	Chemistry	Materia Medica	Therapeutics	Physiology	Total	Average
1	Maryland Medical, '12	58	79	75	63	69	52	70	45	67	578	64
2	Medical College of Virginia, '14	50	..	71	..	67	64	..	..	77	...	..
3	College Physicians and Surgs., Balto., '14	77	81	65	87	76	70	75	77	75	683	76
4	College Physicians and Surgs., Balto., '13	66	89	75	72	75	50	85	93	76	681	76
5	University of Maryland, '14	77	90	81	90	76	70	75	67	88	714	79
6	Johns Hopkins, '15	87	90	86	87	75	80	92	95	96	788	87
7	Johns Hopkins, '15	93	98	90	93	82	93	86	98	89	822	91
8	Johns Hopkins, '15	95	89	81	84	76	97	43	76	80	721	80
9	Johns Hopkins, '15	80	99	94	94	78	95	77	100	82	799	89
10	Johns Hopkins, '15	93	92	84	83	82	100	75	84	77	770	85
11	Johns Hopkins	94	..	..	..	..	94	75	..	95	...	..
12	University of Maryland, '12	85	91	85	91	79	95	75	83	80	764	85
13	Johns Hopkins, '15	90	88	92	92	75	96	87	96	75	791	88
14	Johns Hopkins, '15	82	85	64	74	83	85	75	76	75	699	78
15	Johns Hopkins, '15	86	89	77	99	82	100	83	98	88	802	89
16	Johns Hopkins, '12	84	98	85	89	80	80	77	64	86	743	82
17	Johns Hopkins, '15	79	90	88	89	75	95	57	80	77	730	81
18	Georgetown University, '11	70	76	73	91	75	59	75	86	75	680	75
19	Johns Hopkins, '14	60	75	80	75	77	78	71	84	94	694	77
20	Johns Hopkins, '13	89	81	90	83	82	90	85	81	96	777	86
21	Johns Hopkins, '15	77	82	73	86	78	65	75	66	88	690	77
22	Johns Hopkins, '15	81	85	75	80	76	100	66	75	78	716	79
23	Johns Hopkins, '15	93	86	99	93	79	100	67	90	75	782	87
24	Johns Hopkins	98	..	..	..	..	98	53	..	86	...	..
25	Temple University, '15	82	80	77	88	76	86	80	86	82	737	82
26	Johns Hopkins, '15	70	83	80	87	88	88	69	75	85	725	80
27	University of Maryland, '14	69	..	46	72	75	76	..	..	61	...	..
28	University of Maryland, '15	90	79	94	96	80	97	89	86	83	794	88
29	Johns Hopkins, '15	88	81	69	84	75	85	75	80	81	718	80
30	Johns Hopkins, '15	82	84	75	89	83	97	75	82	86	753	84
31	Johns Hopkins, '15	83	84	78	90	87	100	75	76	85	758	84
32	University of Maryland	72	..	..	..	..	45	50	..	70	...	..
33	University of Maryland, '15	73	75	80	90	75	77	75	77	67	689	76
34	College Physicians and Surgs., Balto., '14	..	72	60	90	75	80	..	..	..	...	..
35	College Physicians and Surgs., Balto., '14	69	..	60	..	63	80	62	39	75	...	..
36	Howard University, '14	73	68	68	65	75	65	80	49	78	621	69
37	Johns Hopkins	86	..	..	..	..	100	80	..	83	...	..
38	Howard University, '13	74	75	74	79	75	82	75	71	75	680	75
39	Johns Hopkins	92	..	..	..	..	90	80	..	83	...	..
40	Johns Hopkins	75	..	..	..	..	98	75	..	87	...	..
41	College Physicians and Surgs., Balto., '13	75	75	65	82	64	65	64	89	80	659	73
42	University of Maryland, '15	96	90	85	97	81	95	89	100	90	823	91
43	University of Maryland, '15	76	85	73	87	81	94	77	76	75	724	80
44	University of Maryland, '15	80	88	94	90	75	90	90	82	84	773	86
45	Johns Hopkins, '15	88	93	86	90	87	92	84	95	84	799	89
46	Johns Hopkins, '15	78	79	76	74	71	98	60	75	67	678	75
47	Johns Hopkins, '15	89	88	88	85	75	96	75	84	75	755	84
48	College Physicians and Surgs., Balto., '15	93	93	75	82	81	83	82	77	85	751	83
49	Johns Hopkins	64	..	..	..	..	90	58	..	89	...	..
50	University of Maryland, '15	76	84	66	92	75	64	84	87	70	698	77
51	Johns Hopkins, '15	95	86	92	88	77	100	95	84	89	806	89
52	University of Maryland, '15	80	87	85	94	83	89	62	88	64	732	81
53	University of Maryland, '15	85	88	90	88	81	97	80	84	78	771	86
54	Johns Hopkins	60	..	..	..	..	68	52	..	70	...	..
55	Maryland Medical, '13	..	..	58	..	..	..	..	..	..	...	..
56	Rush Medical College, Chicago, '05	87	84	84	96	80	99	92	89	88	799	89
57	College Physicians and Surgs., Balto., '15	92	91	95	95	78	90	84	100	93	818	91
58	Johns Hopkins, '14	84	89	64	76	75	68	60	86	75	677	75
59	University of Maryland	61	..	..	..	..	80	68	..	80	...	..
60	Maryland Medical, '10	40	..	..	64	54	..	75	..	..	...	..
61	College Physicians and Surgs., Balto., '14	75	81	55	81	83	45	75	64	70	629	69
62	University of Maryland, '15	79	88	80	92	71	75	81	78	80	724	80
63	Johns Hopkins	85	..	..	..	..	98	75	..	82	...	..

MARYLAND
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THE CANCER PROBLEM.*

By William J. Mayo.

Cancer in its inception is a local disease, and if removed at that time is curable. Let us, therefore, bend all our efforts toward the recognition of the disease while in the curable stage.

In Germany a cancer propaganda comparable to the tuberculosis work conducted in America has led to marvelous results. A much higher percentage of cancer victims reaches the surgeon in time for operation there than we are accustomed to see in our own country. It is estimated that, as a result of the tuberculosis campaign in the United States, 20,000 lives that were formerely sacrificed to the disease are now saved each year. The laity must be educated in regard to cancer as they are being educated regarding tuberculosis, and, fortunately, means have recently developed that will be exceedingly helpful in extending the educational influence of the medical profession in this respect.

The great majority of people believe cancer to be essentially an incurable malady. I venture to say that, if one were to go into the street and talk with ordinarily well-informed citizens, he would find the conviction among them that cancer is incurable, and the few who, in their personal observation, had been cured, were regarded as the exception and not the rule. This view, I am sorry to say, is shared by many medical practitioners of the older school. Why has the public become so confirmed in the belief that cancer is incurable, and how has this pessimism been fostered? In no small degree for the following reasons:

Heredity.—Perhaps one of the most unfortunate results of a logical inquiry into the influence of heredity on the causation of cancer has been the encouragement of a belief that cancer is a hereditary disease, and therefore carries a stigma with it. The person who has been successfully operated on for cancer conceals the nature of his malady with the same solicitude he would probably conceal the fact that he had "done time" in a penitentiary. He does not wish his business world to know it, fearing that it would be looked upon as an obstacle to his career. Moreover, he does not wish his family to go through life thinking they are predisposed to this disease because he has had it. The result is that of the hundreds of patients who have had cancer and who have been cured by operative means the public knows little or nothing, while those who have had cancer and been operated on without

*Substance of the address given in Baltimore May 10, 1915.

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success are known to all. The community remembers only too well the suffering of the victim and the dreadful end. The subject is discussed throughout the neighborhood, and too frequently the operation is confused with the disease, prejudicing people against surgical relief.

Is there any justification for the view that cancer is hereditary? So far as I know, there is but little evidence that would lead to this belief. We know that overwork, worry and bad nutrition, or what may be called general unhygienic conditions, will so affect the tissues of certain families as to break down their resistance to tubercle bacilli. It is possible that, in this sense, there may be families whose tissues, subjected to chronic irritation, may be more liable to develop the disease than the average individual. But even this is purely problematic, and by no means proved.

I have often been told of instances in which members of the same family have suffered from cancer at about the same time, and these coincidences are held of great weight. Yet these combinations may arise at any time, just as a card-player may occasionally hold four aces or a royal flush; such hands are not due to chance, but to mathematical laws. This is equally true of so-called "cancer houses" and "cancer towns." Always, when carefully investigated, the facts concerning such places do not bear out the assertions concerning them. Small towns in older settled countries have more cancer than new towns, for they have more people of a cancer age, the younger people having left for new fields.

The medical profession has done much to engender the belief in the heredity of cancer. The person supposed to be suffering from the disease is closely questioned regarding this point, and in such way as to lead him to believe that it is an exceedingly important fact. A good history should take heredity into consideration, but we should tell the patient and the family that, at the present time, there is no proof to warrant the belief that cancer is hereditary.

Hoffman, statistician of the Prudential Insurance Co. of America, has carefully investigated the insurance mortuary records of this country, and denies that there is the slightest evidence presented in these enormous statistics to warrant the belief that heredity plays any part in the development of cancer.

Syphilis.—I have seen not over two dozen cases in which a good diagnostician would mistake syphilis for cancer; yet the liability to this mistake has been dwelt upon and greatly magnified, and many individuals have advanced from the curable to the incurable stage while an effort was being made through antiseptic treatment to eliminate the possibility. The patient perhaps presents himself with cancer of the rectum. His family physician dislikes to suggest to him a mutilating radical operation. He thinks over the cancers of the rectum that he has known to have been operated on, and the record has probably been most unfortunate. The patients have been subjected to formidable operations, left with uncontrollable evacuations, and later have succumbed to the disease. The

physician hopes against hope that it may be syphilis. He knows that it is often impossible to obtain a history of syphilis, or that it may have been accidentally acquired. The patient is in the early stage of cancer—quite curable—but since he has only a small focus of disease, it would be a terrible thing to subject him to a mutilating operation. Therefore, the physician advises a prolonged course of antisyphilitic treatment. He eventually is confronted by the fact that it is not syphilis, and, in the meantime, the patient has passed from the curable to the incurable stage. Operation is then advised, and is done, with the usual result.

The Wassermann reaction has, fortunately, come to our aid and to the patient's rescue. It is no longer legitimate to subject a patient to a prolonged course of diagnostic antisyphilitic treatment. We should know at once whether or not it is syphilis, and in this way "maybe it is syphilis" will not have the disastrous effect it has had in the past.

Not Lack of Knowledge, but Lack of Examination.—Mistakes in diagnosis from lack of careful examination is the most common cause of failure to recognize malignant disease in time for a curable operation. Many diagnosticians make one or two physical examinations, but fail to continue to make them. If we are to protect our patients from misfortune, such examinations must be repeated as long as we have charge of the case. Who has not had the humiliation of having the patient first call his attention to a tumor that had developed sufficiently to be palpable since the last examination? The development of asepsis has brought about an aseptic conscience. The examining physician often hesitates to make the necessary examination because it involves soiling the finger. This is especially true of the rectum. Fifteen per cent. of the patients who come to us with cancer of the rectum have been recently operated on for hemorrhoids or treated for stricture. It is true that the patients had one or both of these conditions, but they also had a cancerous growth, and in each one of these patients the growth was in easy reach of the examining finger, and could have been recognized by the sense of touch alone. How easy it is to carry a few thin finger-cots in the pocket, so that such an examination can be aseptically carried out. The very presence of cots in the pocket suggests their use.

Inefficient Operations.—In this connection I come to a delicate subject, but one which I feel should be touched upon. There is too high a percentage of patients with cancer subjected to inefficient operation by inexperienced men. Because the disease is early, it appears as though it might be easily cured, and men who would not for one instant think of operating where a radical operation was to be done will often make a small operation—which is futile and hopeless—and thus sacrifice the life of their patient, because it is in this early curable stage that the operation should be most carefully carried out.

The surgeon has had a great share in creating the feeling of hopelessness which exists among the laity, and has often discouraged the general practitioner by his unwarranted attempts at radi-

cal procedures in plainly incurable disease or extensive palliative operations which fail to palliate. We have all witnessed extensive radical operations for hopeless cancer and, after a terrific and futile operation had been completed, have heard the surgeon say, "Oh, well, it was hopeless, anyway." But does that justify us? I am sure that, if surgeons were never to make another palliative operation for cancer, thousands of lives would be saved that are now lost through delay. The laity knows that such a patient was operated on, and that he died a horrible death, but it does not know that the operation was a palliative one, and it confuses in its mind the last stages of the disease with all its sufferings with the operation rather than with the disease. Far better that the patient go home and tell the family and friends that it is too late for operation; then the suffering and death will leave no such confusion in the minds of the people of the neighborhood. They see just what the disease has done, and from that neighborhood patients will come early, in contradistinction to the hopeless patients with inoperable disease who drift in from communities where too late or palliative operations have been the practice.

Do not understand me as saying that palliative operations should not be done. It is our duty to look after the individual and to do our best for him, but before we do a palliative operation, and especially before we do a mutilating operation, let us answer this question: "Will the palliation which the patient receives be worth to him the pain, the detention from his family and the expense?" Or, better yet, let us bring it home and say to ourselves: "Would I allow one of my family to be subjected to this formidable operation with such slight prospects of cure or alleviation?"

Non-operative Methods.—If late and palliative operations for cancer promise so little, have we any other recourse to relieve such patients? In this connection I have been interested in investigating the results achieved by radioactive substances—Roentgen X-ray, mesothorium, and especially radium—in the cure or palliation of cancer. I have talked with many men of experience in the great clinics, and few have exhibited faith in the curative properties of these agents in deep-seated or advanced growths, although all have seen superficial growths cured. It is evident that radioactive substances have a greater influence in sarcoma than in carcinoma, but, strange to say, few cases of sarcoma have been reported in which the cure has lasted as long as four years. It would seem, therefore, that these agents are capable of curing permanently small superficial carcinomas and of causing to disappear about 30 per cent. of sarcomas. As palliation is often marked and of long duration, and the use of radioactive substances subjects the patient to little discomfort, the field of application in such cases is broad. *But these agents should not be used in early growths curable by operation!*

The use of heat in cancer is an ancient practice. Ordinarily applied as a destructive agent by actual cautery, it is the only non-operative means which has stood the test of time. We are in-

debted to Percy for a scientific exposition of the value of heat, demonstrated both experimentally and clinically. He uses an electrocautery with a controlling rheostat, and operates through specula lined with chambers for the continuous flow of cold water to limit the application. Many observers have shown that the embryonic cell, such as the cancer-cell, has less vitality than the mature normal cell, and is especially affected injuriously by heat. The actual difference between the cancer-cell and the normal cell in ability to withstand heat has not been determined, but is probably from 15° to 30°. Percy demonstrated that heat could be made to penetrate deeply into the cancerous tissues, exerting a selective action by keeping in the range of this marginal difference. The cautery kills both the normal and the diseased cells, and in so doing develops a charcoal core which insulates the tissues against heat as though it were asbestos. Heat should be used, therefore, not as a cautery, but raised to such a degree as to coagulate the embryonic cells, and this effect, by a slow cooking process, may be made to reach out into the tissues, destroying the embryonic cells, far in advance of its effect on the normal tissues. It is the scientific application carried to its logical conclusion of the only agent besides the knife that has retained its reputation throughout the history of medicine. So far as our experience goes, this method, applicable to a large variety of carcinomas in various situations, forms a palliation with prospect of cure in a group of cases in which the knife has been inefficient.

Improved Methods of Diagnosis.—How fortunate it is that there have recently been such additions to our diagnostic methods! The Roentgenogram has added enormously to our ability to see into the hidden places of the body. This remarkable agent must be classed with microscopic pathology as developed by John Hunter, with the development of the natural sciences due to the work of Darwin and Wallace, and with the germ origin of disease as advanced by Pasteur and Lister. Roentgen's work has reformed diagnostic methods, it has replaced speculation with facts, and yet we are only in the daguerreotype stage of Roentgen ray photography. By this means we are now able to determine the nature of many obscure diseases of the digestive tract. For instance, in cancer of the stomach we can make, largely by the Roentgen ray, an early diagnosis in 93 per cent. of the cases.

It is true that we had, in the exploratory incision, a means of fairly exact diagnosis in such cases, but this procedure carried with it a dread to the patient of an unnecessary operation, and too frequently developed the fact that it was too late for operation. The Roentgenogram, therefore, gives us knowledge of the early case, so that we may operate with a prospect of cure, and may also save the patient the distress of an unnecessary exploration and ourselves the humiliation of making it.

The results of operations for malignant disease have enormously improved within the last 10 years, and much of this improvement must be credited to the clinical pathologist. Where we formerly worked under the influence of the eye and hand, we

are now working under the influence of the microscope. The *frozen section* enables us to see the innermost nature of the diseased tissue during the progress of the operation, while the knowledge is of the greatest value to the patient. The development of diagnosis by means of the frozen section has been somewhat slow. The pathologist, trained in the preceding generation, had learned to recognize certain artefacts in the tissues and to feel lost unless he found them. There is as much difference between the living tissues studied in the immediate frozen section and the tissues studied after several days of preparation as between surgery on the living and dissection on the cadaver.

It has been necessary to develop an entirely new technic and understanding of living microscopic pathology comparable to what we have experienced regarding the development of gross pathology of the living as contrasted with post-mortem pathology. I often hear clinical men say they would rather trust to their clinical experience than to the microscope. If it be true, I would I had their knowledge. I can only say that, of all aids toward improving the actual results of operation, none has been of more value to me than the frozen section.

Prophylaxis of Cancer.—Taking all things into consideration, I think we may look upon the future of the cancer problem with hope. We are advancing rapidly in our ability to recognize the nature of the process early, and we see the lines of progress distinctly.

We do not as yet know the actual cause of cancer, but we do know that it has its soil in a disturbance of the protective mechanism, usually of the skin or the mucous membrane of the body. And this is as true of cancer in the lower animals as in man. All vertebrates suffer from cancer always in situations in which their habits expose them to chronic irritation. The horncore cancer in the cattle of India is due to the irritation of ropes through a hole bored in the center of the horn near the skull, with which they pull their load. Fibiger accidentally found that the sugar warehouse rats from America often had cancer of the stomach, and others a curious type of chronic gastric inflammation. He found that these rats often eat cockroaches, but was unable to produce these effects with the cockroach which was indigenous in Denmark, but that rats fed upon the American cockroach often developed the disease, and that American cockroaches were infected with nematodes. These worms bore their way into the mucosa of the gastric membrane and areas of chronic irritation result, some of which become carcinomatous.

In considering human beings, the evidence as to the relation of chronic irritation to the development of cancer is overwhelming. The woman with myomas of the uterus is many times more liable to cancer of the body of the uterus than are those without these tumors. Fifty per cent. of the carcinomas of the pelvis and calyces of the kidney are associated with stone in the kidney. At least 20 per cent. of carcinomas of the sigmoid have their origin in diverticulae. Gall-stones are found in at least 85 per cent. of

all carcinomas of the gall-bladder. Ulcer or some chronic irritation of the stomach occurs in half of all gastric carcinomas.

There are many well-known illustrations of the fact that chronic irritation from heat disturbs the epithelium, thus making malignant disease possible. It has been shown that when a considerable quantity of fluid is taken into the stomach it passes by the canalis gastricus along the lesser curvature and directly to the duodenum without mixing with the food mass in the fundus. This is exactly the situation of 85 per cent. or more of all ulcers and cancers of the stomach and ulcers of the duodenum. Food is cooled during mastication, but liquids are often swallowed hotter than can be borne comfortably in the mouth. One cannot help thinking that hot drinks may be one of the most important irritative causes of chronic ulcer and precancerous lesions. Extreme cold may have the same effect. Primitive men and animals do not take their drinks hot, and seldom have gastric cancer.

That the habits of man predispose to cancer cannot be questioned. Cancer of the groin in the chimney-sweep and sailor is due to riding on the rope sling in the course of their work. Eighty-five per cent. of cancers of the lip are in men who smoke. The Kangriburn cancer from which the natives of Kashmir suffer, and which are in excess of 50 per cent. of the total number of cancers seen in Kashmir, is due to the skin irritation of the charcoal baskets filled with hot coals which they carry on the lower abdomen. The cancer in the mouth of the betel-nut chewer comprises more than 50 per cent. of all the cancers in certain parts of India. Chinese men are very subject to cancer of the posterior wall of the pharynx, due to the hot rice which they eat; the women eat at the second table, when the rice is cold, and are not thus afflicted.

Co-operation of the public is essential if we are to have the full benefit of our present knowledge. To say to laymen that cancer is curable in the early stage is not sufficient. They have no knowledge of what constitutes the early stage. Is it possible for us to teach them the nature of those influences which we know by experience may lead to the development of cancer, and if so, should they be taught *prophylaxis* as well as those indications which show that the disease has developed? No one has yet seen a cancer of the skin or visible mucous membrane of the body which was not preceded by some form of chronic irritation. Investigation of the inner surfaces of the body reveals the same conditions always preceding cancer. Let us, therefore, say to the public: "Go to your physician at once on the discovery of any sign or symptom of irritation about warts, moles and benign tumors or ulcerations, chronic inflammatory processes, or injuries, however slight, which fail to heal promptly."

When the laity understand that all sources of chronic irritation carry with them a deadly significance, the prevention of cancer will have been greatly advanced and the percentage of curable cases which come to the only known cure—operation—will be enormously increased.

CHRONIC ARTHRITIS TREATED WITH RADIOACTIVE MINERAL WATER.*†

By Ernest Zueblin, M.D.,

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THE therapeutic results obtained in chronic arthritis are far from perfect in these obstinate conditions. The use of salicylates in high doses is often rendered impossible by gastric intolerance. So frequently, we have to resort to physical means, to actino-, helio-, thermo-, hydro- and electro-therapy. In the past few years radiotherapy has been recommended.

The action of high doses of radio-emanation by local, subcutaneous and general applications (baths) is better known.

E. Zueblin,[1] V. Noorden,[2] His,[3] Hovorka and Kronfeld,[4] Neusser,[5] Gottlieb,[6] V. Noorden and Falta,[7] Strasser,[8] Armstrong,[9] Strassburger,[10] Jansen,[11], Bernheim,[12] Falta and Freund,[13 14] Loewenthal, [15 16] Nagelschmidt,[17] Fuerstenberg,[18] Davidsohn,[19] Marckwald,[20 21] Kemen,[22] Aschoff,[23] Gudzent,[24 29] Glaessgen[30] Scholz,[31] Benczur,[32 33] Minkowski,[34] Plesch,[35] Burnham,[36] Lowe,[37] Goldberg[38] Mannes a. Wellmann,[39] Kable,[40] E. Fraenkel,[41] Georges,[24] Prich,[43] Bickel,[44] Laqueur,[45] Rowntree and Baetjer,[46] Fr. Proescher,[47] W. H. Cameron,[48] Bissell.[49]

Empirically the mineral waters have been used for these manifestations, giving relief to such patients. The use of radio-emanation in small doses as contained in mineral waters, however, may have been tried with more or less transient effect. The present paper deals with a few dispensary cases that received Mountain Valley water, which was found radioactive. In a former publication (E. Zueblin 50) I reported upon my quantitative determinations of the radioactivity of this water, whilst a clinical study of these cases should furnish some data as to the utility of substituting the salicylic acid by radioactive water.

No. 1. Mrs. S., aged 46, occupation housework, complained since many years, at least 15, of aching pains in her joints, wrists, shoulders; came to the dispensary with manifestations of exacerbating chronic arthritis. Wrists of both hands swollen, tender, with increased local temperature and reduction of motility. The index and middle finger on the right hand are deviated laterally, thickened and swollen in the metacarpo-phalangeal joints, capsule thickened, and cracking sounds noticed at movements; both tibio-tarsal joints are swollen, tender on touch, with lack of motion passively and actively. Knees also enlarged in size and swollen, tender capsule, slight accumulation of fluid, tenderness on touch, and reduction of motility.

*The water was furnished through the courtesy of the Mountain Valley Agency at Baltimore, to whom I wish to express my appreciation.

†Read before the Baltimore City Medical Society, March 5, 1915.

Heart.—No enlargement, but heart sounds indistinct, distant, without any murmurs, pulse accelerated, irregular, easily depressible. Patient was given sodium salicylate, 60-90 grs. per day, which medication was followed by hardly any improvement. Then the patient was put on Mountain Valley water, 4-6 glasses of 6 oz. each per day; after a few days some improvement was noticeable, generally charcterized by loss of tenderness and swellings in the examined joints. Patient continued using the water for about three months, during which time the improvement persisted. However, the patient noticed swelling of her feet and ankles, objectively slight edema of these regions was observed. The patient complained of dyspnea after exertion and palpitation of the heart, and the dose of water had to be reduced to one-half on account of the weak heart.

During that time the articular manifestations returned, the physical examination showed slight improvement of the joints previously described, with less swelling, improved motility without causing any pains. With a dose of tincture of digitalis, 10 minims three times a day, the pulse became more regular, shortness of breath and palpitation ceased. On account of a lessened amount of water a new relapse of her articular manifestations followed, so salicylates in the dose stated above were added to the water and a slight improvement followed. Examined a few weeks later, in November, the following was observed:

Left hand, metacarpal bones 1-4 not so thickened and less tender on pressure. The first and second metacarpo-phalangeal joints were enlarged in the transverse diameter, and some reduction in the motility; moderate deviation to the outside of the phalanges; on the right side these changes were not so marked. Patient was given 5 minims of tincture of digitalis and only one-half bottle of Mountain Valley water a day.

Pulse was 57; slow, irregular, not very distinct. Blood pressure, systolic 112, diastolic 68. Patient complained of headaches. Left elbow capsule thickened, tender on pressure, with slight reduction of motility. The patient was then lost sight of, and has not appeared since.

It is our impression, with regard to this case of multiple chronic arthritis, that during the use of the water, subjectively and objectively, some improvements could be noticed, which change, however, did not last, as the water had to be reduced on account of the heart conditions.

No. 2. A. N., aged 49, occupation housework, white (No. 57,328 and 2544), October 23, 1913.

Married; parents dead; two brothers and two sisters living and well; 14 children well; one died nine years ago.

Previous diseases—Measles; malaria about 10 years ago; Grippe in 1911; no venereal diseases. In 1911 operated for appendicitis. Menstruation at 14 years, painful, accompanied by headaches; no alcoholism. Complains since March, 1913, of severe pains in her knees, which pains return at irregular intervals. No digestive disturbances except poor appetite; some leucorrhea.

Physical examination:

Heart and pulmonary findings negative. Both knees swollen, distended capsule, cracking sounds obtained on extension and flexion, more marked on the right side, tenderness on palpation of both internal menisci, both capsules present moderate tenderness over internal and upper cul de sac.

Medication—Sodium salicylate 10 grs. every four hours; Lady Webster pills No. 1 in the evening. Patient does not show any marked improvement. On November 6 swelling of ankles, with pains, notwithstanding continued salicylate medication. On November 18 salicylate medication was substituted by 5 grs. aspirin every three hours. On the 22d pulse is irregular, no improvement of joints objectively, no additional findings obtained.

Patient was started on 8 oz. of Mountain Valley water four times daily. On November 28 a slight improvement of pains was reported, so the same water treatment was continued. On December 13 a slight improvement of the articular manifestations was noticed, patient had more pronounced digestive symptoms, wherefor she was referred to the stomach department. The water treatment had no appreciable effect upon the sluggish intestinal functions. When referred to the latter mentioned department, the X-ray picture demonstrated adhesions of the intestines, so an operation was advised, but refused by the patient.

The case was lost sight of, and no further information could be gathered as to the joint condition. We are under the impression that the Mountain Valley water in a case of chronic deformant arthritis relieved the pain to a slight extent, but probably did not affect in any way the anatomical changes.

Several cases of *acute rheumatic arthritis* were subjected to the same treatment. The observation of these gave similar results as the one described above.

In these ambulatory cases we must bear in mind that patients not subjected to the constant medical control, and living under unhygienic conditions, the results necessarily must differ from those instances in which a careful supervision is possible. In acute articular rheumatism we were unable to observe any marked improvement; on the contrary, during the use of the water the morbid manifestations were more pronounced.

As regards the chronic forms of articular rheumatism and arthritis deformans, it would seem that objectively some improvement of pains, swellings and loss of function can be, but is not necessarily expected in such cases. In elderly people, where we have a defective circulation, it must be remembered that an excessive amount of water may favor cardiac decompensation. A subjective relief may be temporarily present, objectively; however, no marked influence upon the pathological process could be observed.

From other clinical observations, which will be published later, it would seem that probably the dose of emanation contained in bottled Mountain Valley water was not high enough to bring permanent results and more objective improvement. High doses of

Radiothorium applied to the joints, continued for a long time, bring better relief and improvement. These few observations tally with the general impression that such patients cannot improve satisfactorily unless they are removed from their daily surroundings and placed under individual physical and dietetic treatment, as only then they may expect satisfactory results.

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ROENTGEN DEMONSTRATION

By Max Kahn, M.D.,
Roentgenologist to St. Agnes' Hospital.

In demonstrating these plates only about 150 have been selected out of a number exceeding 1100. The latter number represents the Roentgen examinations made by plate since this department has been opened at St. Agnes' Hospital last September, a period of nine months. To this must be added several hundred fluoroscopic examinations as well as several hundred treatments. The

Figure 1.—Periosteal sarcoma of the head of a child 2 years of age.

plates were selected mainly because they show some unusual pathologic conditions as well as to demonstrate the practicability of the Roentgen rays as a factor in diagnosis of internal disorders. A good many of the treatments were post-operative as well as for inoperable neoplasms and other conditions requiring deep therapy: in this class of cases the Coolidge tube was employed. A number of superficial skin lesions were also treated. The fluoroscope (vertical and horizontal) was frequently used for examinations of the chest and gastro-intestinal conditions. It also was extremely helpful in the immediate diagnosis of frac-

*Read before a meeting of Baltimore County Medical Association held May 26, 1915, at St. Agnes' Hospital.

tures and dislocations and their reduction, as well as the recognition of foreign objects in various parts of the body and their removal.

The plates presented to you today were chosen because of their interest both to the general practitioner and specialist. Of especial interest is the plate of a child two years old, showing a periosteal sarcoma of the head. The uninvolved part of the cranium is nearly twice the size for a child of this age, and the sarcoma apparently is growing rapidly. Roentgenograms taken at short intervals show a marked increase in the size of the growth. The tumor appears to involve only the occipital and parietal bones, but probably extends into the brain also. Treatments with the

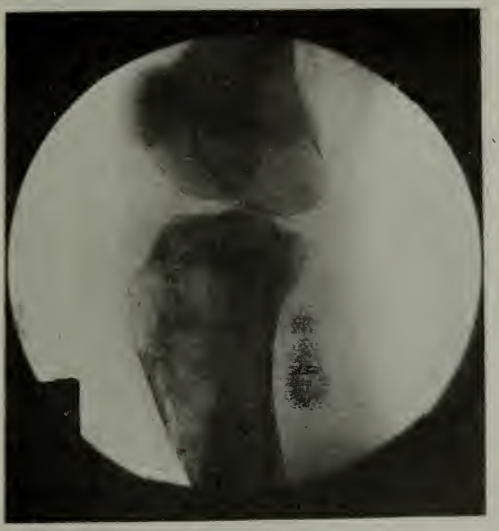

Figure 2.—Bone cyst of tibia with new bone formation three months after operation.

Coolidge tube unaltered this condition, and recently the child became blind. The next two plates show a perithelial angiosarcoma of the right side of the face and neck. These Roentgenograms were principally made to rule out any bony involvement. This can be clearly seen from the normal appearance of the maxillary bones and the cervical vertebrae. The tumor itself is plainly visible. Another case of new growth shows a bone cyst of the tibia. This was incised and curetted, and a Roentgenogram taken three months later shows that new bone formation has taken place. Of the numerous fractures one is especially interesting.

This, as you can see, is a fracture of the surgical neck of the humerus with head rotated outward and the lower fragment inward. At first it appeared difficult to reduce without an open operation, but after the third attempt at reduction without anesthesia an almost perfect anatomical result was obtained. Many cases of fracture and suspected fracture were examined, and we therefore found that a negative diagnosis was equally important as a positive. A number of patients suffering from suspected gall-stones were examined, and in 50 per cent. of cases a positive diagnosis was made and verified at operation. One case of a calculus in the ureter, in which the Roentgenogram showed it opposite the third lumbar vertebra, was operated and the stone found at this location and removed.

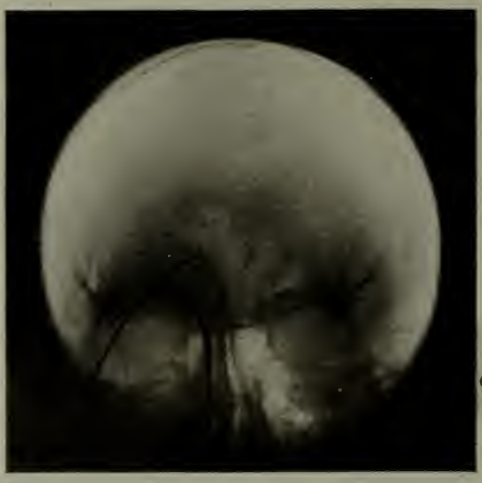

Figure 3.—Left frontal sinusitis with one probe inserted from without and the other from within.

In examination of the nasal accessory sinuses we have found the Roentgen examination extremely valuable. In the great majority of cases the diagnosis was made by this means and later verified at operation. In other cases the clinical diagnosis was verified by the Roentgenogram. In this manner we were able to diagnose frontal, ethmoidal, sphenoidal and maxillary sinusitis. Of this class of cases one is especially worthy of note. A young man suffering from influenza complained of pain over his left orbit, and about four days following his attack a discharging sinus appeared in the region of the left orbital arch. A tentative diagnosis of frontal sinusitis was made by his attending physician and verified by Roentgen examination. This patient was drained

from within, and apparently he has made a perfect recovery. Later Roentgen examination reveals a slight cloudiness in the sinus, but externally it has healed, and clinically he feels well. This cloudiness is probably due to a hypertrophied condition of the mucous membrane.

Stereoscopic examinations were found especially helpful. This method was employed in practically every part of the body, but was most frequently used in the location of foreign bodies, fractures and dislocations, and in diseases of the chest, stomach and intestines. Of the gastro-intestinal conditions a plate showing

Figure 4.—Carcinoma of colon at hepatic flexure; bismuth stopped at X.

obstruction at the hepatic angle is interesting. The patient was given a rectal enema of bismuth, and the obstruction was found to be due to carcinoma at the hepatic flexure. In the examination of the stomach and intestines we found it helpful to make examinations both by fluoroscope and plates, and not confine ourselves to one or the other method alone. In this manner we were able at times to diagnose conditions about the stomach, as suspected ulcer and carcinoma, cholecystitis and chronic appendicitis, as well as ptosis and adhesions. In the fluoroscopic examinations the peristalsis, motility, size and position of both stomach and intestines were at once noted, as well as kinking of bowel.

RECENT ADVANCES IN THE STATE DEPARTMENT OF HEALTH OF MARYLAND.

By John S. Fulton, M.D.

In 1913 the State Department of Health of Maryland included into five technical bureaus a Division of Food and Drugs, and an Executive office. The five bureaus were named after their several functions, Vital Statistics, Communicable Diseases, Chemistry, Bacteriology, and Sanitary Engineering. The Division of Food and Drugs is under a commissioner, and is not, in a strict sense, a bureau. The distinction is quite unimportant, however, and this division is commonly spoken of as the bureau of food and drugs. The Executive office is also called the Executive Bureau, though there is no legislative authority for that designation.

The Legislature of 1914 enacted three laws, one of which widened the powers of the Department as to the production and handling of food materials, another extended the powers of the Bureau of Sanitary Engineering, and the third greatly strengthened the Executive branch of the Department by creating a medical field force.

The first of these laws, known as the Sanitary Inspection Law, gave the Board of Health a large control over the sanitary conditions of producing, collecting, packing, storing, distribution and sale of foods. Before this law was passed, our food laws prevented adulteration and misbranding, and were fairly effective against the sale of unsound, unwholesome, or adulterated foods; but they took no account whatever of the sanitary conditions under which foods were prepared. So long as the foods themselves did not offend the laws, they were lawful foods, no matter how unhygienic the conditions of their production, preparation and sale might be.

The comprehensive nature of the new law (Chapter 678 of the Acts of 1914) is well indicated in its title—"An Act providing for the sanitation of factories, canneries, bakeries, confectioneries, creameries, milk plants and distributing dairies, hotels, restaurants or eating-houses, packing and slaughter-houses, ice-cream plants and other places where food products are manufactured, packed, stored, deposited, collected, prepared, produced, or sold for any purpose whatever."

If one bears in mind the number of persons in Maryland who eat daily, it will be at once apparent that the complete supervision of the food industry would require a corps of inspectors equal to, if not exceeding, the entire police force of the State. The bill does not carry any appropriation, but a very good beginning has nevertheless been made in operating the law.

The text of the law includes sixteen paragraphs for the guidance of inspectors and food producers. Of these sixteen paragraphs,

six are devoted to general specifications and ten are specific regulations for the canning industry.

Representatives of nearly all important food industries were very active in the advocacy of this bill, and the canners came out for it in force. This circumstance explains the particular emphasis which the bill itself laid on the sanitation of canneries. The same explanation is offered for the almost exclusive attention given by the Board of Health, in the first year, to the canning industry.

The law became effective on July 1, 1914, and since then the canneries of Maryland have been completely inspected. It seems quite certain that the "pack" of fruits and vegetables for the year 1915 will be made under far better conditions than in any preceding year, and the reputation of Maryland canned goods will improve. This probability was indeed a main motion of the canners in advocating the legislation. The Maryland "pack" goes into the world-market, and must compete with the "pack" of the most enlightened States. The requirements of public opinion in Maryland with respect to foods in general are well to the rear of the requirements in the States and counties which are the largest buyers.

It does not appear that the strong partiality with which the State Board of Health has favored the canners tends to arouse the envy of other groups of food producers. It must be clear that adequate supervision of food supplies cannot be had by State action alone. The State laws at the moment are approximately as definite and comprehensive as they should be. If the cities and towns were equipped with proper laws and competent officers, the hygiene of foods could be brought rapidly abreast of the best American practice.

With respect to that one food exceeding all others in its hygienic importance, namely, milk, the State of Maryland probably lacks, at this time, and in the matter of legislation, only those defenses which the local government should apply. The State Board of Health has sufficient authority to enforce reasonable sanitary equipment and practice on all dairy farms. With an adequate field force it could control the milk supply at the producing end. With its present force, it can and does furnish localities with important information by which local authorities can and sometimes do exclude bad milk from their markets. But it is not found that local authorities are regularly willing or able to use the information for their own defense. There is a manifest tendency in some localities to shift the whole burden of defense upon the State. In one instance the local authorities, fully authorized and supplied with all necessary evidence, have failed to prosecute for watering milk. Speaking as an individual, and not for the Board of Health, I speak here the opinion that a locality as supine as this should not be delivered by the State from the danger of its supineness.

The control of milk supply in Baltimore city has materially improved in the past two years, but even here the state of popular

intelligence is not such as to demand the enforcement of existing law. The milk of swill-fed cows has been a staple food in Baltimore for more than a generation. In most cities the sale of swill milk is forbidden. Many Baltimoreans are under the impression that swill milk cannot be sold here. On the contrary, the swill milk producers are enjoying an honorable truce with the city government, and the worst milk in Maryland, probably, is produced especially for Baltimore consumption within range of unaided vision from the City Hall tower.

An effort of the City Health Department to stop the sale of swill milk has been lost for a year or two somewhere in the silence of the city courts. Why should the State make a breach of this peace by intervening? Evidently, swill milk is good enough for Baltimoreans.

Chapter 810 of the Acts of 1914 provides for "the better preservation of the public health by preserving the purity of the waters of this State; providing for the supervision and control by the State Board of Health over water and ice supplies; sewerage, trades wastes and refuse disposal; and for the maintenance, alteration, extension, construction and operation of systems and works relating thereto; providing for the raising of funds by counties, municipalities and sanitary districts for the maintenance, alteration, extension and construction of the same, and prescribing penalties, etc."

The law must have held forth a promise at least of immediate utility, for several local governments took advantage of its provisions within the first two months of its existence. A number of inquiries were made as to whether local governments, not quite ready under their own powers to initiate sanitary reforms, could be helped into action by the State Board of Health. In one instance this inquiry was followed by an explicit request for the State Board of Health to exercise its right to order the installation of sanitary works, and to authorize the creation of a public debt on account of such works. In other instances the overtures of local governments were not so explicit, though quite as effective in bringing to the localities the assistance desired.

The law empowers the State Board of Health not only to require the installation of sanitary works, but the raising of funds, by means of an order approved by the Governor and the Attorney-General. The validity of the law came into question in Baltimore. The Legislature of 1914 passed an act authorizing the Commissioners of Baltimore County to raise funds for sewerage; but this enabling act was rejected by the voters of Baltimore county at the following election. The State Board of Health, recognizing the urgent necessity for sewerage in two designated areas of Baltimore county, served an order on the County Commissioners requiring them to sewer these areas within a specified time. The Commissioners asked the Court of Baltimore County to vacate and set aside this order of the State Board of Health, and the court vacated

the order, saying that the provisions of the law were "contrary to the limitations placed by the Constitution upon the debt contracting power of counties and of the General Assembly." The Court of Appeals remanded the case to the Circuit Court, with the statement that the act is not contrary to the Constitution, and that the Circuit Court has only to decide whether or not the order of the State Board of Health is reasonable.

In the ten months of its existence this law has promoted, if not generated, a great advance in community sanitation. It could not bring incorporated communities, in so short a time, to a much stronger state of intelligence and good intentions, but it relieved local embarrassments and set free the will of local governments.

In some portions of the State the early results of this law are such as will surely compel the attention and improve the practice of the entire State within a few years. The time is now well past when public water supplies and complete efficient scavenging were at the command only of large cities. Such facilities are within easy reach of populations of 1000 or less, and the poverty which cannot attain them is not thinness of purse, but poverty of spirit. Before long we shall have, it is hoped, compelling examples of small communities watered, sewered and cleaned at least as well as Baltimore.

Chapter 675 of the Acts of 1914 authorized the State Board of Health to divide the State into ten Sanitary Districts, and to appoint a Deputy State Health Officer for each district. The boundaries of the districts must follow county lines. The Sanitary Districts are as follows:

District No. 1—Allegany and Garrett counties.
District No. 2—Washington and Frederick counties.
District No. 3—Carroll, Howard and Anne Arundel counties.
District No. 4—Baltimore county.
District No. 5—Montgomery and Prince George's counties.
District No. 6—Charles, Calvert and St. Mary's counties.
District No. 7—Harford and Cecil counties.
District No. 8—Kent, Queen Anne's and Caroline counties.
District No. 9—Talbot and Dorchester counties.
District No. 10—Wicomico, Worcester and Somerset counties.

The Deputy State Health Officers hold office "during efficiency and good behavior, but may be removed for cause by a majority vote of the State Board of Health, after having been given an opportunity to be heard in their own defense." They may not practice medicine nor engage in any other occupation which would conflict with their official duties. Their salaries may not be under $1200 nor more than $2500 per annum.

Each of these deputies, within his own district, has all the powers of the State Health Officer, and he may besides enforce any local health law when the local health authority refuses or neglects or refuses to enforce such law, after notice is given by the Deputy or by the State Board of Health. The State Board of Health is

authorized to appoint such inspectors, nurses and agents as may be needed to aid the Deputy State Health Officers in the performance of their duties.

The provisions of this law enable the State Board of Health to create a corps of field officers and to bring their influence to bear directly upon the people of the ten districts. The force is mobile; it can be concentrated wherever need may arise.

This provision of the law enabled the Board to give the Deputy State Health Officers their first season's duty in a single locality, and it was thought wise to do so. The county of Dorchester offered the opportunity. This county is not distinguished, among the Maryland counties, for its high prevalence of typhoid fever. The State of Maryland enjoys an annual epidemic of typhoid, without marked distinction for any county. It is, however, the distinction of Dorchester county to have a medical profession acutely sensible of the discredit incurred by the medical profession by reason of the unhindered prevalence of typhoid fever. The proposal to make a sanitary survey of Dorchester county was, therefore, not likely to meet with local opposition, or even reluctance. The Governor of the State very heartily agreed to ask the Federal Government to undertake, in conjunction with the State Department of Health, a survey of Dorchester county.

The survey began on July 20 and lasted until November. The United States Public Health Service detailed Surgeon L. L. Lumsden to command the survey party, and four other officers of the Public Health Service were on duty in Dorchester during the summer. The State Department of Health contributed nine medical officers in all to the working party. Besides the typhoid survey, there was an investigation of the milk supply of Cambridge, which was undertaken in co-operation with the Milk Committee of the Women's Civic League of Baltimore.

Investigation of the canning industry and of the sewerage and water supply situation were also made by the Department of Health, so that Dorchester county was a scene of extraordinary activity in matter of public health in 1914.

The women of Dorchester county manifested their interest in quite an extraordinary way, by forming a Community Sanitation League, a society without dues and without any elaborate constitution or by-laws. Its essential condition was the agreement of each member to put her own premises in order. Beyond this the women acted as forerunners to the medical inspectors. In the towns they made advance visits and secured a welcome for the sanitary officers who followed them. There was no distinction of race in this league. In the town of Cambridge a group of colored women undertook in their neighborhoods exactly the same duties which were performed by the white women.

The characteristic feature of Dr. Lumsden's kind of survey is the personal interview with the responsible head of every household. For a young health officer, this exercise excels all other

means of sharpening a man's wits. He very quickly learns that the important materials of his task are not so much the particular causes of sickness and the vehicles of infection, but the wills and affections of reasoning men and women, refractory materials sometimes, but on the whole tractable.

The main purpose of the survey was, of course, to effect a great improvement in the habits of the whole people with respect to the disposal of human excrement. There must have been an enormous amount of private talk, as there certainly was of public speech, on this subject in Dorchester county during the survey. As one of the deputies expressed it: "This week you tell a family all about typhoid fever, and when you come around again in two weeks they tell you all about typhoid."

The year's record of typhoid in Dorchester was considerably below the average for several years, but it is prudent not to attribute marked success to a campaign beginning in midsummer against an autumnal disease. Other things besides the survey operated against typhoid in Maryland last year. There was a general decline of the disease throughout the registration area. Maryland might have a drop of 50 per cent. without overtaking the best States in the registration area.

It is possible that the experiment in Dorchester may lead to a sanitary survey of all the counties. Anne Arundel county is to be surveyed, in consequence of the requests of the Women's Civic League of Annapolis and the Anne Arundel Branch of the Maryland Association for the Prevention and Relief of Tuberculosis, these requests being supported by the County Medical Society, and of the express action of the County Commissioners and of the Mayor and City Council of Annapolis.

The joint forces of the United States Public Health Service and the State Department of Health began their work in Annapolis on April 19.

The Mayor and City Council of Salisbury have asked for a survey of that town, and it is possible that the county authorities may ask for a survey of the county. The instigators of this request are the United Charities and the Civic League of Salisbury. The local medical profession has not, up to this time, expressed any interest in the subject.

These surveys interfere not a little with the systematic development of the sanitary districts, but that inconvenience can be better borne at this time than later, when the district deputies have been settled in their districts and their temporary withdrawal would be objected to.

A survey of all the counties would be in the highest degree profitable, but it would require several years for its completion, and would cost much money. It is doubtful if the State would, or even if it should, undertake such a survey. If the people of the counties wish such service, they should be willing to meet a great part of the necessary cost.

This reflection brings up an interesting question as to the future of sanitary government of Maryland. Speaking broadly, the scheme of sanitary government by County Commissioners is a failure in Maryland, as in other States where it has been tried. What effect will the widened activities of the State have upon the county and town Boards of Health? Will they increase or diminish in function? The State is certain to substitute the function of local Boards of Health wherever the latter continue reluctant or inefficient.

Local Boards of Health at this time are not subject to much pressure of public demand for active health administration. Here and there one may find local health officers who do much more than is required of them.

In some places the health officers can, if they desire, do nothing from year's end to year's end, and incur no criticism from their employers. They cannot neglect the registration of births and deaths, for if they do the State Board of Health will certainly deprive them of this function. Their responsibilities toward the County Commissioners can be evaded, and frequently are evaded It does not appear that local governing bodies expect or ask for a demonstrable profit on the appropriations to public health purposes. The money appropriated annually to public health purposes in the counties of Maryland is enough to pay for two or three times the service rendered.

Moreover, I am inclined to think that if the State should gradually substitute its functions for that of the localities, that process might go on for years before the localities would become sensible of the waste of their own funds.

Book Reviews.

THE CLINICS OF JOHN B. MURPHY, M.D., at Mercy Hospital, Chicago. June, 1915. Vol. IV, No. 3. Philadelphia and London: W. B. Saunders Company. Baltimore: The Medical Standard Book Co. A bi-monthly. Paper, $8 net.

This issue of Murphy's Clinics contains short articles on appendicitis, intestinal obstruction due to a large gall-stone, friction burn of the left ankle—closure of the defect by a pedicled flap of skin and fat, tuberculosis of the cord and epididymis, hypernephroma of the right kidney, etc. Included among the articles is a talk by Wiliam J. Mayo on unsuccessful gastro-enterostomy for ulcer—an analysis of its causes—suggestions for better technic. Dr. Mayo attributes these failures to various causes. Employing the words of the speaker, he says: "I will begin with a hibernianism, and say that I think the most common cause of failure to cure gastric and duodenal ulcers by operation is that the patient did not have the ulcer, but did have the operation. This may be explained as follows: The post-mortem has given us certain data concerning gastric and duodenal ulcers; nevertheless, our opin-

ions concerning ulcers have been largely based on statements of men distinguished in medical circles, and we have not been able to get rid of these impressions. As a result, the patient who presents himself with a certain train of symptoms is said to have gastric ulcer. On the operating table the condition is not demonstrable, yet a gastro-enterostomy is done. So true is this that in our own clinic we have cut off somewhat more than a hundred gastro-enterostomies where no evidence of ulcer was found at the second operation. Today we are cutting off few gastro-enterostomies, because of the fact that the pylorus is mechanically closed at the primary operation. But there can be no doubt that unnecessary operations are being done. In the second group of cases a stitch ulcer will be found which is due to the use of continuous silk or linen sutures. Permanent silk or linen sutures used in gastro-enterostomies have been removed as long as three years after they were put in. Often after a number of months the infected sutures pass out, but the margins of the gastro-enterostomy are left thickened, with interposing scar tissues and adhesions of the upper jejunum to the transverse meso-colon in the vicinity of the gastro-enterostomy. If this happens, the patient will have a recurrence of all the symptoms of the original ulcer. In the third group, failure to cure may be due to the development of carcinoma in gastric ulcer." This number measures fully up to the standard of its predecessors. You should have it.

The Medical Clinics of Chicago. July, 1915. Vol. I. No. 1. Published bi-monthly. Philadelphia and London: W. B. Saunders Company. Baltimore: The Medical Standard Book Co. Paper, $8 per year.

The Medical Clinics of Chicago is planned along the same general lines as Murphy's Clinics, it being the intention of the publishers to gather regularly the bedside and amphitheater record of diseases by the leading internists of Chicago. These records will include the histories, examination, description of diagnostic methods, treatment and other data necessary to a complete understanding of the case. A magazine of this character should and will fill a long-felt need in medical literature. Judging from the make-up of the first volume, there is not the least doubt in our mind concerning the success of this venture. Saunders has gauged what the medical profession desires, and has proceeded to supply the need in a practical, interesting and attractive form. In the initial number are articles by Dr. Charles L. Mix of Mercy Hospital on "Lung Abscess with the Picture of Tuberculosis," "A Lesion of the Cauda Equina" (sciatica the most prominent symptom); Dr. Charles Spencer Williamson, "Nephritis," "A Case of Hepatic Abscess, Gout, etc.; Dr. Isaac A. Abt, "Infantile Tuberculosis," "Sarcoma of the Kidney in a Child Eighteen Months Old" (frequency of neoplasms in infancy); Dr. Ralph C. Hamill. "Syphilis of the Central Nervous System," and contributions by other men of equal reputation.

MARYLAND MEDICAL JOURNAL

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BALTIMORE, OCTOBER, 1915

INTESTINAL STASIS.

SINCE a cast or moulage of the intestinal tract has been made possible by the X-ray, much attention has been directed toward intestinal stasis. Constipation is due to many and varied causes. It may be either functional or mechanical in origin. The examination of the gastro-intestinal tract by means of the bismuth meal and the X-ray has taught us that by far the greatest number of cases of constipation are due to mechanical causes. Like most innovations in new fields perhaps, intestinal stasis, with its associated intestinal intoxication, has been run too hard by the profession and made the scapegoat of our ignorance. Granting, however, that it has been more or less of a medical fad, it cannot be denied that many disabilities of the body have directly resulted from interference with the proper propulsion of the fecal content through the alimentary canal. Therefore, when a long-chested individual with a sallow complexion presents himself to you for advice, bear in mind the possibility that his symptoms may be due to constipation. A furred tongue, offensive breath, mental and physical depression, cold extremities, severe headache, anorexia, dizziness, perhaps accompanied with vomiting, muscular pains and difficulty of obtaining a proper and satisfactory emptying of the bowels should put the physician on his guard. A patient presenting these symptoms demands the greatest consideration. Formerly they were termed neurasthenics, and after a more or less prolonged treatment were passed on to the quack cults. Physicians during the past few years have awakened to the realization that these individuals are really sick and need careful medical

supervision. First and foremost, a careful physical examination, including a series of skiagraphs, should be made. It might be, and in most instances is, advisable to insert the proctoscope in order to determine whether there is any mechanical encroachments into the lumen of the bowel. If after all efforts to find the cause have been exhausted and no bands or adhesions, hernia, foreign bodies, volvulus, intussusception, angulations, growths, benign or malignant, or disease of the rectum can be detected, then one is justified in classing the case as constipation due to functional cause or causes. But until such an effort has been made to eliminate a possible mechanical cause, it is permissible to so classify the case.

Much can be done in a prophylactic way to prevent the development of bowel tardiness. Mothers should insist that their children have at least one stool a day, as the constipation habit is a growing one, and if allowed to pass by unnoticed will sooner or later be followed with dire results to the victim. A bland meal with plenty of fruit should be given to a child or, at that, adult with a constipation tendency. Immediately after breakfast he should be made to go to the toilet and remain on the stool until there is an evacuation. Tea, coffee, all condiments should be strictly tabooed, as they irritate the bowel. Insist upon plenty of water, as constipation is sometimes due to an insufficiency of this element in the daily dietary, that taken being absorbed by the rectum, leaving a hard, dry fecal mass which is hard to pass. Girls especially should be taught to go to the stool whenever they experience the desire, as they are particularly prone to caustiveness. Liquid vaseline in one form or another has become a popular remedy, its action supposedly being due to its lubricating qualities rather than laxative properties. Abdominal massage, exercise and outdoor life should be imperatively insisted upon. Suppositories, purgatives and enemata as routine daily procedures should be positively prohibited. If these remedial measures fail and the patient is complaining of the above-mentioned symptoms, an operation should be undertaken to relieve the fault. The operation done depends upon the cause of the stasis. Acute intestinal obstruction is recognized generally fairly early by the doctor, but it is the chronic form which has so far to a greater or less extent escaped their notice. Such should not be the case, especially with present-day instruments of precision.

Medical Items.

Dr. Thomas S. Cullen has returned to Baltimore after spending the summer in Canada at Ojibway Cabin, his camp in Maganetawan, on the shore of Lake Ontario. He has entirely recuperated from the operation for appendicitis which he underwent about two months ago.

Dr. Edward N. Brush, medical superintendent of the Sheppard and Enoch Pratt Hospital, has returned from an extended trip through the North and Canada.

Out of more than 200 applicants for admission to the freshman class of the Johns Hopkins Medical School for the scholastic year, which opens in October, 90 have been selected.

The South Baltimore Eye, Ear and Throat Hospital, Light street near West, which has been closed since July 31, was reopened September 1.

Drs. J. A. Campbell Colston and H. R. Slack of the Johns Hopkins Hospital staff, who went to France a year ago for service under the Red Cross auspices at the American Hospital at Pau, have returned to Baltimore.

Dr. Roades Fayerweather of Hopkins, who has been at the hospital at Pau, had expected to return with them. He will remain in France several more weeks, probably until the closing of the hospital, which is expected to take place within the next month.

Several Hopkins nurses were also stationed there and helped to do a share of the work in caring for wounded soldiers.

Sir William Osler, regius professor of medicine, Oxford University, England, recently sent Mr. Charles H. Grasty, formerly of the Baltimore *Sun*, the following cablegram:

"Thank American friends for all their kind help, moral and material, and tell them not to be discouraged. It is a long and terrible struggle, but democracy will win. England was never so full of the spirit of Washington and Lincoln as she is today."

Mr. Grasty says Dr. Osler is in close touch with the real war situation and is very active in the war management on the surgical and medical side. American generosity has enabled him to carry out very extensive and far-reaching plans.

A co-operative laboratory, in which Garrett and Allegany counties and the city of Cumberland will participate, has been established in the Department of Health Laboratory in the Cumberland City Hall. The laboratory will be in charge of a trained bacteriologist and pathologist.

Dr. and Mrs. John Houff, who have been visiting friends on Eastern Shore, have returned home.

After an absence of more than three months, Dr. J. A. Nydegger, surgeon in the United States Health Service, with headquarters in Baltimore, who sailed for London last May, has returned to Baltimore.

Dr. Nydegger is much interested in the hospital service which has been established by the Allies during the present European war, and although he hasn't been any further than England, he has made a close study of conditions at long range, and will return to this country with an increased knowledge of how the wounded soldiers have been cared for in the world's greatest war.

Dr. Walter L. Nicholls, Physicians and Surgeons, class of '02, of 401 North Fulton avenue, who recently underwent an operation, is making a nice convalescence.

Dr. T. A. Ashby attended the meeting of the Alumni Association of the Baltimore Medical College and the University of Maryland, held at Lyons, N. Y., on July 15. The meeting was attended by a number of the alumni of the two institutions and was handsomely entertained at the home of Dr. E. W. Carr, president of the association.

Dr. Howard D. Lewis announces that on and after June 22, 1915, his residence and office will be located at 2215 North Charles street. Office hours, 8 to 9 and 7 to 8. Telephone, Homewood 3114-M. Dr. Lewis was formerly located at 1100 Madison avenue.

The twenty-fifth annual session of the New York and New England Association of Railway Surgeons, celebrating the quarter-century anniversary of the organization of the association, will be held at Hotel Astor, New York City, October 21, 1915, under the presidency of Dr. W. H. Marcy of Buffalo, N. Y.

A very interesting and attractive program has been arranged. Railway surgeons, attorneys and officials and all members of the medical profession are cordially invited to attend.

Dr. Nathan R. Gorter, Commissioner of Health for Baltimore City, is investigating the circumstances which caused the failure of the

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authorities at Bayview and the attending physician to report a case of typhus fever to the health department.

Dr. Samuel D. Shannon has been appointed chief of the resident staff of the Maryland General Hospital to succeed Dr. William B. Blanchard, resigned.

Dr. Herbert C. Blake was operated on recently for the removal of tonsils and adenoids at the Maryland General Hospital.

Dr. Clarence E. Downes, health warden for the Eleventh ward, Baltimore city, resigned, to take effect September 1, to accept a position in the United States Public Health Service.

Drs. J. H. Mason Knox, Jr., and James B. Holmes announce that they will be associated in the practice of medicine. Their practice is limited to the diseases of children, with special attention to laboratory methods of diagnosis: "The Severn," Cathedral street and Mt. Vernon Place; consultation hours, 2 to 4 and by appointment; telephone, Mt. Vernon 222.

According to the last report of Dr. Winford H. Smith, superintendent of Johns Hopkins Hospital, expansion of the hospital is necessary. In spite of the large and elaborate plant of the hospital, additional ward facilities are needed, especially for white women in need of surgical attention and also for children requiring surgical treatment. Many patients of this class have to be turned away for lack of accommodations. Dr. Smith also urges the establishment of a convalescent home in the country, which will relieve the present congestion of the wards and shorten the period of convalescence. Seven thousand and thirty-three patients were treated during the year, compared with 6818 for last year. More than 25,000 were treated in the dispensary.

Dr. J. Dawson Reeder announces the removal of his offices from the Professional Building, 330 North Charles street, to the Walbert, 1800 North Charles street. He will be associated with Dr. Underhill. Office hours daily from 9.30 to 11.30 A. M.

BIRTHS.

To Leonard G. Rowntree, M.D., associate professor of medicine at Johns Hopkins Hospital, and Mrs. Rowntree, of 227 West Monument street, Baltimore, August 16, 1915, a daughter.

MARRIAGES.

J. Craig Neel, M.D., Johns Hopkins Medical School, '10, formerly assistant gynecologist of the hospital, to Miss Nellie Clark Glascock, Johns Hopkins Training School for Nurses, '14, both of Baltimore, Md., at Baltimore, August 16, 1915. Dr. Neel resigned from the staff of the Johns Hopkins Hospital to accept the position of assistant to the chief gynecologist of the newly organized hospital of the University of California. He reported for duty September 1.

Walter Gresham Sexton, M.D., Johns Hopkins Medical School, '11, of Marshfield, Wis., to Miss Ethel Hartley Morgan of Roland Park, Md., at Baltimore, Md., August 25, 1915.

Nathaniel Garland Keirle, M.D., University of Maryland Medical School, '58, America's pioneer disciple of Pasteur, and for many years post-mortem physician of Baltimore, Md., to Miss Pattie E. McCoy, also of Baltimore, at Baltimore, August 24, 1915. Dr. Keirle is head of the Pasteur department of Mercy Hospital and instructor of medical jurisprudence at the University of Maryland. He is recognized by laity and profession alike as one of the foremost living authorities on hydrophobia.

DEATHS.

Everett Alanson Sherrell, M.D., University of Maryland Medical School, '12, of Statesville, N. C., for a year and a half assigned to the care of the tuberculosis division of the Bellevue Hospital, New York City, where he contracted tuberculosis, since that time in pursuit of health at Saranac Lake, N. Y., and Black Mountain, N. C., died at his home in Statesville, July 1, 1915, from tuberculosis, aged 29 years.

William P. Barnett, M.D., University of Maryland Medical School, '66, died at his home, Lafayette and Guilford avenues, of Bright's disease, August 29, 1915, aged 73 years.

Charles Thomas Harper, M.D., University of Maryland Medical School, '94, of Wilmington, N. C., a fellow of the American Medical Association and a member of the State Board of Medical Examiners of North Carolina, who was operated on for appendicitis recently at Harper's Sanitarium, Wilmington, died in that institution August 9, 1915, aged 42 years.

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THE EVOLUTION OF OPHTHALMIC LENSES AND A NEW SYSTEM OF DESIGNING THEIR POWERS.*

By Max Poser, F.R.M.S.,
Rochester, N. Y.

Chapter I.

When we speak of ophthalmic lenses we all know that their purpose is to correct defective vision, but little do we trouble, generally speaking, about the real theory of ophthalmic lenses from an optical point of view. As a matter of fact, eyeglasses have been known to the people of various countries for centuries. No attempt, however, was made in ancient times to give the proper attention to this matter from a scientific point of view.

The first scientific publication, so far as we know, appeared in the year 1716, and was written by the mathematician, Chr. G. Hertel of Halle, Germany. He describes in his little book a slightly bent-through meniscus which he recommended as a reading glass with the concave surface next to the eye; for short-sighted persons he also recommended the meniscus form, but, curious to say, with the convex side next to the eye. If there is not a printer's error in describing the latter mode, we must conclude that his method lacked practical experience. His ideas undoubtedly came at too early a date, and for quite a considerable time were not understood. Hertel at the time also pointed out the comfort of a green glass for the eye.

In 1784 Benjamin Franklin invented the bi-focal glasses for near and distant objects.

In 1804 Dr. William Hyde Wollaston wrote a number of articles in which he shows the advantage of his periscopic form over the ordinary spectacle lens.

A few years later, in 1813, Sir David Brewster wrote about his bi and tri-focal glasses, and in 1827 the astronomer, G. B. Airy,

*Read at the meeting of the Baltimore City Medical Society, April 21, 1915.

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corrected his eyesight with a sphero cylinder. This lens was made by a skilled optician named Fuller at Ipswich, England.

In the year 1836 J. Schnaitmann of this country took out a patent for a one-piece bi-focal.

In 1840 the famous German mathematician Gauss shows us in his theories the optical principle of a lens, establishing the now well-known principal points and planes, etc.

From E. Javal we learn that between the years 1840 and 1844 the optician Suscipi of Rome made a toric lens with the outer surface spherical convex and the inner toric concave.

In 1845 Professor Listing discovered the now well-known nodal points, which are of great importance in lens systems not surrounded by air, but with ophthalmic lenses these nodal points are of less importance, since they fall together with the principal points of Gauss.

In 1866 the employment of the metric system of measuring and designating the power of ophthalmic lenses was advocated by the ophthalmologist Nagel, in place of the old English inch system then in use.

Since 1872 the name "Dioptrie," proposed by F. Monayer of Strassburg, was adopted, and which is now universally used as a unit in the metric system for numbering and designating the refractive power of a lens.

About this period the ophthalmic lens industry made great strides in America. The Bausch & Lomb Optical Co., having begun the manufacture of ophthalmic lenses as far back as 1853 for individual requirements, experienced a great demand for their manufacture, and were compelled in the early seventies to lay down an extensive, complete grinding equipment, with the ultimate intent of supplying the trade at large. With the increase for the output of these ophthalmic lenses, of course, greater experience was gained and new types of lenses developed, comprising at this date a full series covering every field of ophthalmic optics.

In the year 1898 Dr. Ostwald, in 1899 Professor Tscherning, and in 1901 Dr. Percival referred to the importance of the center of rotation of the eye in connection with the correction of ophthalmic lenses.

With meniscus and toric forms there was but one further development desirable—the entire elimination of the astigmatic errors for oblique pencils, and which has been finally consummated in the Punktal lenses computed by the Carl Zeiss Works, at Jena, and now introduced in the American market by the Bausch & Lomb Optical Co.

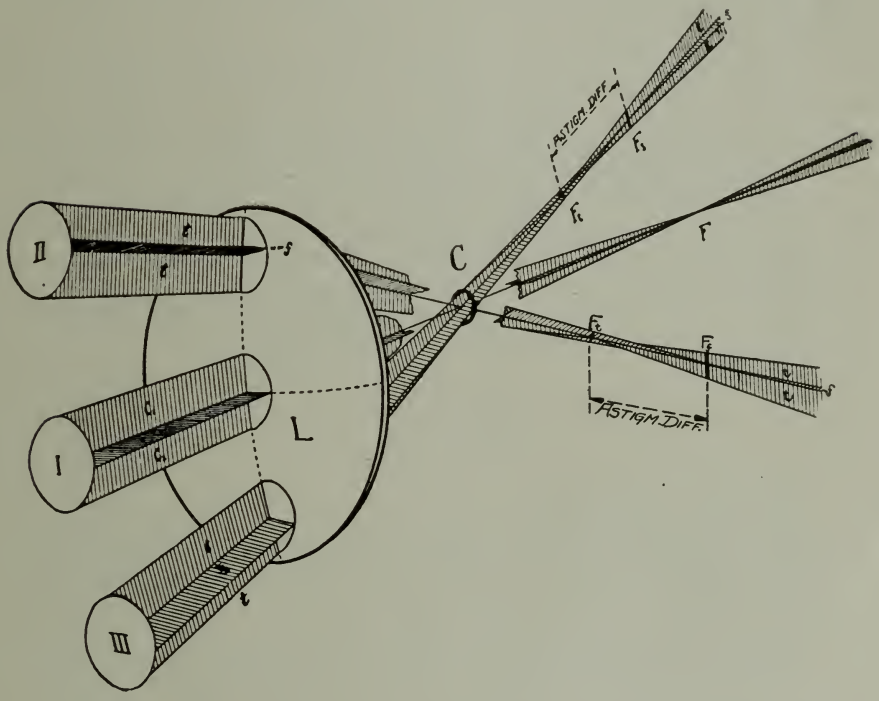
Chapter II.

In September, 1912, we published a paper, "The Eye and the Lens," in which we called attention to the fact that when the eye is rotated like a ball in its socket, with the lens stationary, it will look through the different portions of the ophthalmic lens from center to the margin, and the diagrams accompanying this paper clearly

show the restricted field of an ordinary flat lens in comparison with the periscopic and meniscus forms.

We pointed out at the time that the restricted field of the ordinary ophthalmic lens is due to the lens not being astigmatically corrected for the oblique pencils of rays.

In the diagram we now show on the screen you will observe how these astigmatic differences are brought about. L represents a double convex lens; C the center of rotation of an eye looking through the lens, and the object point in axial position in front of the lens is imaged at F. The light coming from this central object is represented by the pencil I, C being a horizontal and C^1 a vertical



section of this pencil; both sections unite in F, and therefore all other sections of the pencil between C and C^1 also unite in F, and consequently an object point is shown as a point in the image and no astigmatism occurs.

If the eye is now looking through the margin of the lens, the beam of light coming from an object point centrally to the line of sight is shown by the pencils II and III. Since all rays taking part in forming the image of an object on the retina must pass through the center of rotation, we can demonstrate how the horizontal and vertical sections of these beams of light will behave in the focal point.

The refraction of the section t of beam II will differ from the refraction of the section f, and both sections will differ from the refraction of the central beam. Each of these sections t and f will form an image of its own, and this image will not be a point, but a line.

The image formed by the section f lies in the plane of the section t, and the image of the section t lies in the plane of the section f. Sections through the axis of the pencil between the f and t sections will form their image lines between Ff and Ft, and the distance between Ff and Ft is the astigmatic difference. In other words, the pencils of light passing through the margin of the lens are astigmatic, and an eye, when looking through the lens in the direction of the pencils II and III, will not perceive a sharply-defined image of the object.

The amount of astigmatism of the same field depends upon the shape of the lens and its distance from the center of rotation of the eye. For the same lens, astigmatism increases the nearer to the margin the pencil of light passes through the lens.

Following this theory, we constructed a large variety of toric and meniscus lenses in order to obtain highest efficiency.

Considering what has been accomplished up to this point, we may safely say that ophthalmic lenses of the deeper forms used at the present day already are of a high standard of quality. It is, therefore, the more to be appreciated that with the new Punktal and Katral lenses we have still further advanced toward the ideal lens.

Chapter III.

PUNKTAL LENSES.

What is a Punktal lens?

The name "Punktal" has been taken from the German language, meaning that lenses of this description give a uniform and sharp definition from the center to the margin of the field, showing an object point as a point in the image with equal sharpness in any direction over the entire field of view.

Punktal lenses are given the form of the surface that, for an eye rotating under the action of the muscles on its center of rotation, the image of an object element may be clearly defined on the middle of the macula lutea (yellow spot).

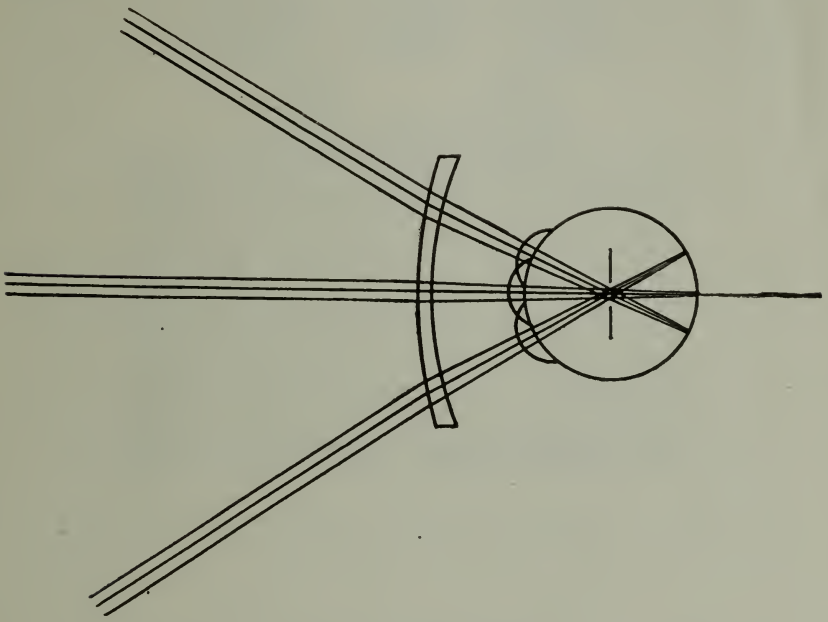
To go into the theory of these lenses would lead us to a very lengthy discussion. We shall, therefore, restrict our attention to a brief discussion of the main features of these Punktal lenses in comparison with the present forms of ophthalmic lenses.

As in direct vision, with the head steady, one point is common to all possible positions of the line of vision, i. e., the center of rotation. To this center of rotation, which we may consider to be the center of a diaphragm through which all image-forming rays will have to pass, we shall calculate all the curves of Punktal lenses.

The distance from the center of rotation of the eye to the vertex

of the Punktal lens surface facing the eye has been chosen to be 25 mm., i. e., 12 mm. from the apex of the cornea to the nearest lens surface.

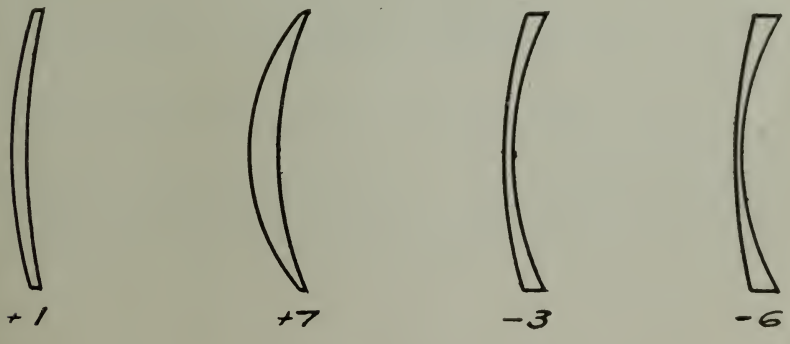
The next diagram shows the center of rotation serving as an imaginary diaphragm, through which all rays forming an image of an object on the center of the macula lutea (yellow spot) must pass.



Having fixed the distance of our imaginary diaphragm to be 25 mm. from the nearest lens surface, we can correct our lenses for astigmatism of oblique pencils within an angle of vision of 60 degrees.

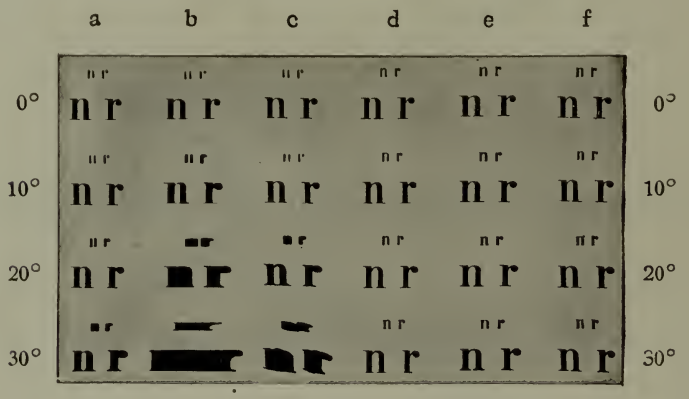
As the power of the lens and the distance of the imaginary diaphragm are given, there is only one variation left, viz., the form, and this has been chosen to be of the deeply curved, toric form.

Special curves, however, have to be used with each number in order to obtain the precise correction of astigmatism of oblique



pencils over the entire field of view of 60 degrees, and consequently *no base curve system can* be employed with these Punktal lenses. The next diagram will give us an illustration of the same.

In the next diagram we shall see a comparative test of an ordinary sphero-cylinder lens of +4, combined with a +3 dioptrie and the Punktal lens of the same power. The photographs of the type are taken through the center of the lens, and at angles of 10, 20 and 30 degrees from the center. Column "a" represents the photographs of the type taken through the sphero-cylinder lens at the plane containing the axis of the cylinder. Column "d" is a row



a, b, c: Photographs of Type taken through a Sphero-Cylindrical Lens of + 4.00 Sph. ⊃ + 3.00 Cyl.

d, e, f: Photographs of same taken through an Astigmatic Punktal lens of + 4.00 Sph. ⊃ + 3.00 Cyl.

a and d: Rotation within Plane containing Axis of Cylinder.

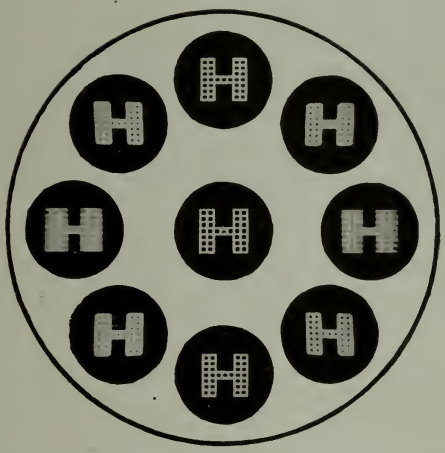
b and e: Rotation within Plane at right angles to Axis of Cylinder.

c and f: Rotation within Plane at 45° to Axis of Cylinder.

of photographs taken in a similar manner through the Punktal lens. Column "b" is taken through the sphero-cylinder lens at right angles to the axis of the cylinder. Column "e" represents similar photographs taken through that portion of a Punktal lens. Column "c" is taken through the sphero-cylinder lens at 45 degrees to the axis of the cylinder, and column "f" represents similar photographs taken under the same condition through the Punktal lens.

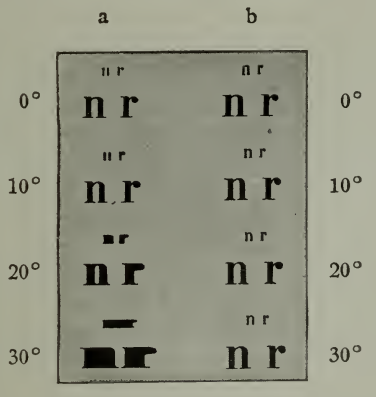
From these actual photographs it is clearly shown that the Punktal lens gives a uniform definition in all positions, a result which speaks for itself.

The next slide will show us an interesting comparison of photographic groups of the letter "H" taken through a sphero-cylinder lens of +3.0 D Sph. combined with +2.0 D Cyl. The single photo-



graphs of the letter "H" are taken in the same manner as the first and last letters of the rows shown in the columns a, b, c, d, e, f.

The next diagram will show the photographs taken in the first-described manner, but through an ordinary bi-convex lens of +5 D and a Punktal lens of the same power. Column "a" represents the photographs taken through the bi-convex lens, and column "b" the photographs taken through the Punktal lens. The lenses mentioned have been chosen merely for the purpose of comparison. In periscopic and meniscus forms the astigmatism, of course, would be less in proportion. From this illustration it will be seen that the Punktal lenses, without doubt, are of the highest quality



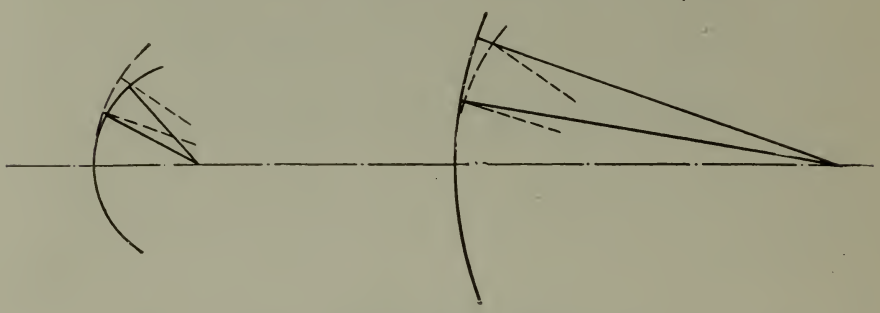
a: Photographs of Type taken through a Bi-Convex Lens of 5. D.

b: Photographs of same taken through a Punktal lens of 5. D.

of modern ophthalmic lenses. Their form, generally speaking, is deeper than the present toric and meniscus forms, with the actual weight reduced to a minimum. The power of these Punktal lenses is designated in vertex refraction (D_v) instead of dioptries, which means that their focal measurement is taken from the center (vertex) of the lens surface nearest the eye, to the back focal point, instead of, as in the dioptric system, where the focus is taken from the principal point to the focal point.

We shall discuss the usefulness of vertex refraction later on, and only state here that these Punktal lenses are designated in vertex refraction for the minus lenses up to $20D_v$ and for the plus lenses up to 7 D_v; beyond 7 D_v plus the Katral lenses take their places.

Katral lenses are constructed similar to Punktal lenses, but in order to obtain the high degree of accuracy, one lens surface has to be aspherical, i. e., deformed, since spherical surfaces do not lend themselves to the correction of astigmatism for the marginal zone of high power plus lenses with an angle of clear vision of 60 degrees. This deformation of the surface, however, is only slight.



You will observe in the next diagram two aspheric surfaces indicated, showing the deviation of the normal in connection with the addition of material, the upper one showing a dotted line toward the margin, which represents the deformation of the outer surface of a Katral lens. The second diagram shows an inner curve with the dotted line indicating the deformation of the inner surface of a Katral lens. The deviation of the normal in connection with these additions of material as shown in the diagram is somewhat exaggerated, in order to serve as a better demonstration. For a real lens of 12 D_v the radius of the actual osculating sphere is 140 m.m., and the difference of the aspheric surface represents only 0.16 m.m.

You may wonder now how it is possible that such an apparently insignificant deviation from the ordinary spherical form may correct the astigmatism of oblique pencils. This is easily explained.

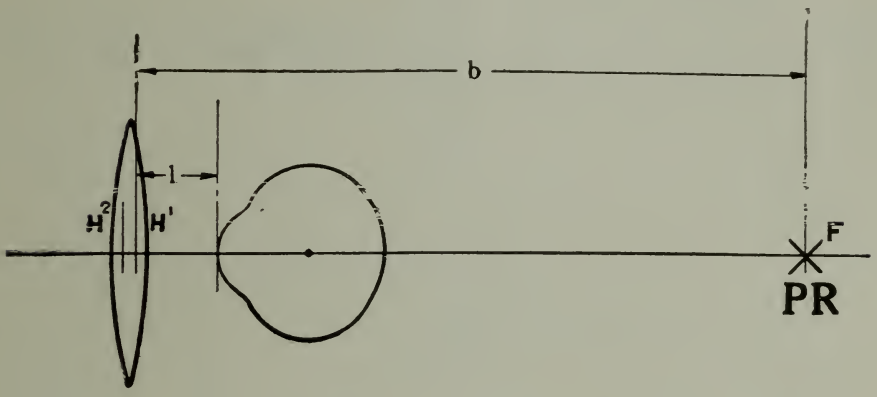
The correction of this aberration not only depends on this difference itself, but also on its first and second derivative. This will give some idea as to the accuracy to which these lenses must be

worked, and consequently the cost of manufacture will be considerably higher. Katral lenses are as perfectly corrected as the Punktal lenses. They are supplied in powers of +7 (D_v) to 20 (D_v) and more, and like Punktal lenses, if of toric form, will furnish a given astigmatic value from center to margin uniformly over the entire field of 60 degrees.

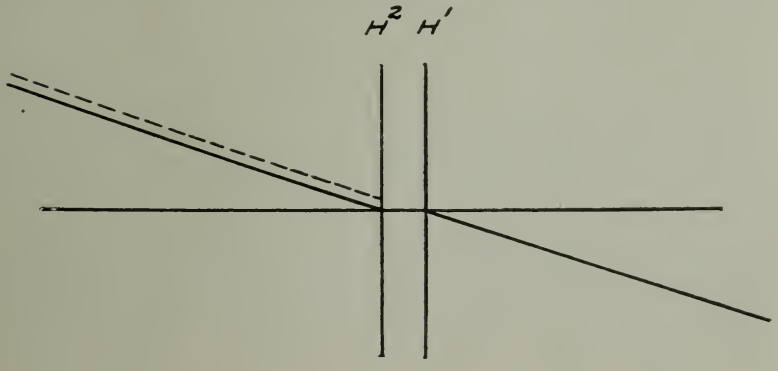
Persons operated on for cataract will find lenses of this description a direct relief in comparison with the old form of lenses.

Chapter IV.

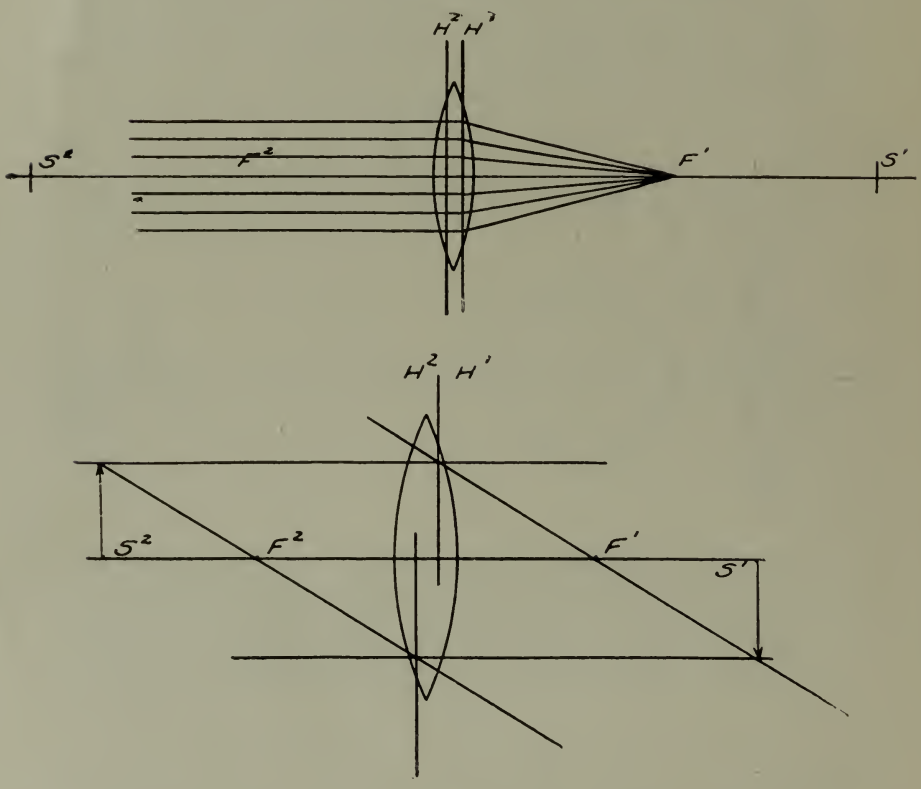
We will now discuss this new vertex refraction system in comparison with the dioptric system, and to arrive at a clear understanding it will be necessary to go into the details with reference to the principal points of a lens.



In our first diagram we show an eye and an ordinary bi-convex lens in correct position to refract the eye. You will observe in the diagram the star with the letters "P.R." which represent the punctum remotum, i. e., the far point of an eye at which objects are seen clearly defined with the accommodation of the eye relaxed.



An ametropic eye is corrected when the lens images the object in the punctum remotum. The point in the center of the eye as seen here represents the center of rotation of the eye. It is the point around which the eye turns when looking at objects situated more or less outside of the axis of the lens, without turning the head. The points marked H_1, H_2, are called the principal points of the lens. Their property is that any ray which moves toward one of them will, after traversing the lens, emerge parallel to its former path, but as if it had passed through the second of them, as indicated by the dotted line shown in the next diagram.



In the next diagram we have a thick bi-convex lens, the surface curves of which are equal. With such a lens the principal points H_1, H_2, are located within the lens, F_1, F_2, are the principal focal points and S_1, S_2, are called the symmetric point. If light is passing through this lens parallel to its axis, say from left to right, it will be focused at F_1. S_1, S_2, are situated on the principal axis at double the focal distance from the principal points; hence the focal lengths of all spectacle lenses which concern us are to be measured from F_1 to H_1.

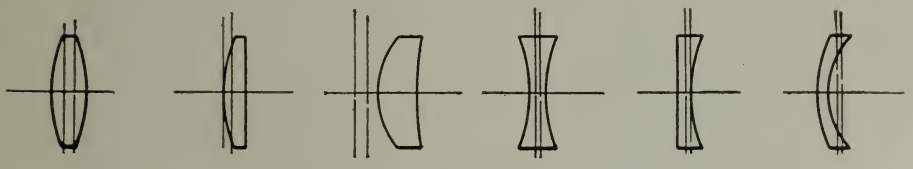
In the next diagram we shall see how these principal points can be demonstrated in a simple manner, according to the Gauss theory.

We draw a line through the axis of a bi-convex lens, S_1, S_2, indicating the symmetric points. F_1 F_2 are the principal focal points, A being the object and B the image of same in natural size. We now draw a line toward the lens from A through the focal point F_2, and a second line from A parallel to the axis of the lens passing through the lens. We now construct a line parallel to the first line, but passing through the back focus F_1, and a fourth line from B parallel to the axis of the lens. From the points where the first and fourth and the second and third lines cross each other we draw lines perpendicular through the axis of the lens, and where the two last mentioned lines cross the axis the principal points will be found.

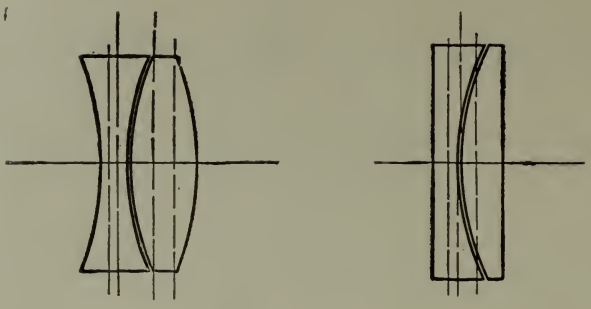
In all ophthalmic lenses which concern us these principal points are about one-third the thickness of the lens from each other. The separation of same can also easily be calculated by the formula:

$\Delta = t, \frac{n-1}{n} \Delta =$ the distance between the two principal points on the axis of the lens, t equals the thickness of the lens at its center and n the refractive index of the glass. In bi-convex and bi-concave lenses the principal points lie within the lens, but with lenses unsymmetrical in their form, like meniscus lenses, for instance, matters are quite different.

We show in the next diagram ophthalmic lenses as they are now in use, and from which you will notice that they largely differ in

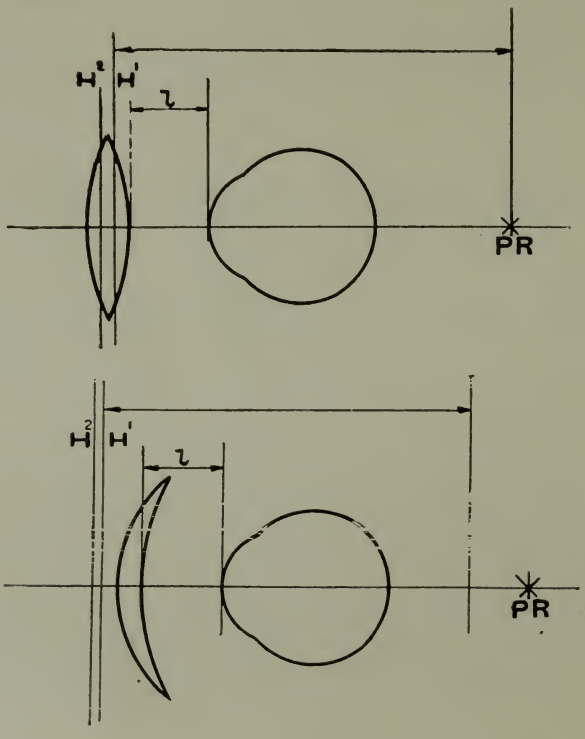


shape. The principal points belonging to these differently-shaped lenses are indicated, and you will observe that these principal points always shift toward the surface of greater curvature. In the deep meniscus lenses they are found more or less outside the lens; in the plano convex one is on the convex side, while the other is within the lens; in the bi-convex both principal points are within the lens. In the negative forms we find that the principal points behave likewise. They are displaced toward the surface of greater curvature, and with the plano-concave lense the one principal point is on the concave surface, while the other is within the lens; hence the plano-concave and the plano-convex lenses can be neutralized by bringing the same in contact so that the principal points on the curved surfaces coincide. In our next diagram we will show how this is accomplished, and at the same time you will observe the impossibility of neutralizing any of the other forms in this manner, since



the principal points cannot be made to coincide and neutralization is not possible without altering the power of the one or the other component. We learn from this that our neutralizing present method is impracticable, and we now observe what influence these principal points have on the position of the focal point when compared with the position of the lens itself.

In the next diagram we see three positive and three negative lenses of different shapes but of equal dioptric numbers. The lenses are arranged with the vertex facing the eye, in one plane. The position of the principal points, consequently, will appear at different planes in relation to which the focal points will also be at different positions.



This established fact will show us the importance of the principal points and their position in relation to the lens when determining the correcting power of an ophthalmic lens in a given position from the eye.

An ametropic eye is corrected when the ophthalmic lens images the object in the punctum remotum. In our next diagram we see an eye corrected with a bi-convex lens, the vertex of the lens surface next to the eye being at a distance l from the apex of the cornea and the lens images the object in the punctum remotum. The second diagram shows us a positive meniscus of the same dioptric power as the bi-convex lens and at the same distance l from the eye, but since with this type of lens the back focal point is much nearer to the lens itself, owing to the principal points being outside in front of the lens, the image of the object will lie in front of the punctum remotum and the eye is over-corrected.

You will observe from this that there must be something wrong with our theory, and Prof. Von Rohr was the first who realized that it is the back focus of the lens measured from the vertex of the surface facing the eye, and not the power (dioptre) of the lens, which is of importance, for the proper correction of an ametroptic eye.

Further, with the present dioptric system the thickness of the lens is often neglected, and we will see from the formula we give herewith what influence this thickness has on the power of a lens with given curvatures. Formula $D_1 + D_2 - \frac{d}{n} . D_1 . D_2 = D$ 5.98.

D_1 being the front surface of a +6 D lens, D_2 the back surface, d the thickness of the lens 0.0034 m. at its center, n the refractive index, say 1.50, of the glass material.

The same lens with the thickness of 0.0054 m. will give us D 5.967, with the meniscus D_1, +12, and D_2, –6, d .0034 m., and n 1.50, we will find D to be 6.163, and with the same lens but with the thickness of 0.0054 m., D will be 6.259. We have here four different powers of lenses supposed to be +6D, but actually differing more than 1/5D. This again will show us the inconsistency of our present dioptric system. Notwithstanding a good many requests are made to ophthalmic lens manufacturers to furnish lenses in eighths of dioptries.

Prof. Von Rohr, therefore, proposes *to measure all ophthalmic lenses, of whatever thickness, shape or form, from the focal point to the vertex of the surface of the lens facing the eye, and not to the principal point, as done at present, in order* TO DETERMINE THE REFRACTIVE POWER. The measurement obtained from the surface of the lens facing the eye to the focal point is then related to the meter lens in the usual manner, and in order to avoid confusion he uses the symbol D_v (vertex refraction) as a distinction of lenses measured in this manner from those designated in ordinary dioptries. Comparing, now, the actual dioptric power of an ordinary trial case lens, for instance, and the vertex refraction of a Punktal

lens, we find that vertex refraction in Punktal lenses and dioptries in trial case lenses hardly differ in their correction value, since the focus of a trial case lens measured from the principal point to the focal point in comparison with a meniscus lens designated in vertex refraction (the focal measurement is taken from the vertex of the surface facing the eye to the focal point) will only differ by one third the thickness of a trial case lens at its center, and will therefore be a negligible factor.

The vertex refraction of a lens can also be found by the formula:

$$D_v = D \frac{1}{1 - D_1 \frac{d}{n}}$$

or it could be readily measured with an instrument specially constructed for the purpose, and which I will now explain.

The Vertex Refraction Measure consists of a base with a double sliding device on which a target with luminous cross is mounted. A scale is provided for each slider, the first scale representing the refraction numbers of the spheres in the D_v system, and the scale of the second slider indicates the cylinders On the one end of this base a telescope attachment is fitted with a stage to receive the ophthalmic lens to be measured. The eyepiece on the telescope tube is focusible for the purpose of bringing the cross lines in the telescope tube in proper focus and so correct the differences in the eyesight of observers. The telescope itself is a fixture. With the index of the scales in zero position the telescope, when no lens is on the stage, will show the luminous cross of target clearly defined. Measurements of ophthalmic lenses are now taken by simply placing the lens on the stage in such a position that the surface facing the eye in normal condition is pointed downwards. A slight pressure is now exerted in order to push the lens with stage toward a steel pin situated in a fixed position below stage surface until the lens comes in contact with this pin. Looking through the telescope the luminous cross appears now out of focus. With a spherical lens under test, the first slider is now moved to and fro until the image of the luminous cross appears sharply defined. The position of the index will then show at once the vertex refraction of the lens thus tested. The scale on the first slider reaches up to 10 D_v for either plus or minus, and if a lens of a higher power than 10 D_v is to be measured, a plus or minus lens of 10 D_v is then brought into play, according to whether the lens to be measured is plus or minus. For the high power positive lenses thus measured the auxiliary lens is a negative of 10 D_v, and for the negative power to be measured the auxiliary lens will be a positive of 10 D_v. These auxiliary lenses are mounted in an adapter below the stage, and can be brought readily into play. If the cylinder of a toric lens is to be measured, the first slider, after having focused for the spherical power, the horizontal line of the luminous cross, is to be clamped and the second slider brought in action to focus the vertical line of the luminous cross; the reading on the second scale will then represent the cylinder. The cross

in the target is illuminated by means of a small electric lamp, and for the purpose of precise focusing a glass disc is fitted to the telescope tube, having one-half of the field colored red and the other half green, so that when the rays of light passing through these two halves are perfectly united, a tint of the complimentary color is obtained. A special device for fine focusing is also fitted to the sliders, so that the adjustment can be made with the greatest precision. For the purpose of measuring the position of the axis of a cylinder, the target device with luminous cross is provided with a graduated collar with index, and so arranged that it can be revolved.

Ophthalmic lenses designated in vertex refraction could be readily interchanged with any kind of ophthalmic lens, since the trial case lenses, or ordinary, periscopic, meniscus, toric, Punktal or Katral lenses, if all named according to vertex refraction, will furnish equal correction to the eye, provided their numbers in vertex refraction are alike. We see from this that our present trial cases and ophthalmic lenses of the old or new form designated in dioptries need not be abandoned, since their dioptric power can easily be converted in vertex refraction, and *for which reason we already published a table* from which we can find the vertex refraction of any old or new forms of ophthalmic lenses designated in the ordinary dioptric numbers, or we simply measure the ordinary trial case lens or combination of lenses, as the case may be, with the vertex refraction measure, and are then in a position to furnish a patient with any of the various forms of lenses of the same number in vertex refraction as the trial case lens or lenses thus measured.

To simplify matters, trial cases with lenses marked in vertex refraction and a suitable trial frame will be made by the Bausch & Lomb Optical Co.

Punktal and Katral lenses, as we have seen, are corrected for a distance of 12 mm. from the vertex of the lens to the apex of the cornea, and when placed at other distances an allowance is to be made.

To measure this distance on the patient the Bausch & Lomb Optical Co. has made a small instrument as designed by Carl Zeiss, called the "Keratometer," which we shall see in the next slide.

The application of this instrument you will see from the diagram; same is placed at right angles to the line of sight of the patient and the scale in millimeters on the end of the instrument near the temple of the patient will be seen, together with the profile of his eye when looking through the lens situated on the other end of the tube. The instrument allows for a very large field of view, so that the profile of the eye, together with the spectacle frame, appears equally sharp and free from parallax. The measurement can be carried out by simply bringing the zero line of the scale coincident with the apex of the cornea and then read the nearest line of the scale to the vertex of the spectacle lens; if a meniscus, measure to the inner edge of the lens and add the distance from the edge of the lens to the center of the inner surface to the measurement, when the total will represent the distance of the vertex of the spectacle lens to the apex of the cornea. With a bi-convex lens the measurement from vertex of inner surface to the cornea can be made direct. With Punktal and Katral lenses a table has been made to show the depth of curvature for all diameters.

The next diagram will show us another useful instrument, "The Interpupillary Gauge." This instrument is so arranged that it can be placed on the bridge of the nose of the patient.

As you will see from the diagram, two tubes are arranged parallel to each other, having two scales at the end of each tube next to the eye of the patient, while on the other end of the tubes a screen is provided so that the observer is protected against any stray light. The application of this instrument is to rest same with the end piece bearing the scales on the bridge of the nose of the patient. When looking through the tubes the observer will see the eye of the patient between the two scales, which are graduated in such a manner that the one scale represents the distance in millimeters from the center of the bridge of the nose to the pupil, for reading distance, while the other scale represents the distance in millimeters from the center of the bridge of the nose to the center of the pupil, for distant vision.

In order to keep the eye of the patient steady, a white mark is

provided for on the outer surface of the screen central with the axis of the tube through which the eye is looking, and the patient is then directed to observe that white mark. A shutter is provided for, manipulated by a pin in the middle of the instrument, and which shutter serves the purpose to close one tube at a time, so that if the right eye is measured the aperture of the tube in front of the left eye is closed, and when observing the left eye the shutter is pushed over by means of the pin opening the aperture for the left eye and closing the aperture of the tube in front of the right eye. This instrument should prove to be most useful in ascertaining the correct measurement of a frame chiefly when the eyes of the patient are not at equal distances from the center of the nose.

SOME IMPRESSIONS OF EASTERN KENTUCKY AND THE TRACHOMA PROBLEM IN THAT REGION.

By Herbert Harlan, A.M., M.D.
Baltimore, Md.

I was not in Eastern Kentucky a sufficiently long time to establish intimate personal friendships with the natives as I had previously done in North Carolina, but when I arrived in Perry, Knott and Floyd counties I took a look around and found, as it were, that I was seeing through my North Carolina spectacles. The people were very similar—kind-hearted, hospitable, suspicious of strangers, diffident, sensitive to a degree, and yet very independent and self- reliant. The halo of romance painted by various novelists around the Kentucky mountaineers was not apparent to me. The peculiarities of the people seem to me entirely due to their remoteness from so-called civilization.

There are few opportunities for any kind of social or religious gatherings. There is so little arable land that I do not see how it is possible to raise sufficient food. Poverty is the keynote, carrying with it inability to build roads and schoolhouses.

Whether the first cases of trachoma were brought into this country by the original settlers, or whether it was introduced at the close of the Civil War, or came from some other source, is interesting, but cannot be determined; that it affects a good many thousands of people and how it is or may be readily communicated is not so difficult to understand.

Among a large number of poor people with whom general personal bathing is seldom if ever indulged in, it is the universal custom to wash hands and usually face before meals, a piece of soap and a tin basin, with water supplied by means of a bucket and a dipper, all placed in the neighborhood of the kitchen, are cheap and fairly abundant, but when it comes to the towels—"there is the

rub." Towels cost money, and one or two often supply the needs of a large family and all their guests.

It is difficult to see how any member of a family can escape infection should one member or an accidental guest be affected with acute trachoma.

The disease is a chronic one, and accompanied at first with very little personal discomfort and no interference with vision.

To eradicate in a short time a contagious disease which has such a foothold among people so widely scattered as are the inhabitants of these mountains is impossible. Given some time and some money, however, much can be done.

The people must be educated and the local doctors taught to recognize and treat the disease. I believe the best routine treatment to be a thorough grattage, followed by continued local treatment and then again partial grattage of the conjunctiva from time to time as may be necessary. With this treatment properly carried out, I am convinced that most cases can be cured, or nearly cured, in from three to six months.

In regard to the grattage operation, many older patients will be found with sufficient fortitude to stand it under local cocaine anesthesia, but general anesthesia is necessary with the timid, and is probably better in all cases.

For continued local treatment there is nothing I have found so good as a solution of Sulphate of Copper. This is put up in Glycerine, about a dram to an ounce, and a small quantity of this is given to the patient and he is instructed to put one drop of the solution in from 15 to 20 drops of water, a few drops of this to be put into the eyes several times a day. The eye drops to be made fresh from the Glycerine Copper solution each time they are used.

Patients can be operated on at certain centers, and can then be given treatment to be carried out at home, with instructions to return to these various centers for observation at intervals of three or four weeks, as the case may seem to require.

Of course, this plan will perhaps seem somewhat slow, and money must be supplied from some source, if not by the richer and more fortunate portions of Kentucky, then from outside sources, as is now being done by the United States Public Health Service.

Most wonderful work, in an educational way, is being done by the industrial schools which have been established in various places. Not only is the coming generation helped, but the children returning to their homes convey to their families the knowledge of better ways of living.

The W. C. T. U. School at Hindman is doing most efficient missionary work, is to be highly commended, and all schools of that class should be most liberally supported by charitably-disposed individuals.

The United States Public Health Service has taken up the trachoma work, and has Dr. John McMullen, well known to many of you, in charge, with headquarters at Lexington. From this point

he visits at frequent intervals and superintends after having established a number of small local hospitals. At this time there are in operation three hospitals—one at Hyden, in Leslie county; one at Hindman, Knott county, and one at Jackson, Breathitt county, and is about to establish one in south West Virginia.

Each of these hospitals has a resident physician and two trained nurses. They will accommodate 15 or 20 patients only, but the resident physicians treat all that come to them as outside patients.

In a recent letter Dr. McMullen wrote me that in the month of February the Hindman Hospital treated more than 100 hospital cases, while the total attendance at the hospital was about 600, and there were 90 operations performed.

Now, Hindman, though the county-seat, has only about 300 people, and the county 10,790. It is evident the patients were drawn from considerable distances.

I believe the trachoma problem is in the process of solution.

Book Reviews.

A Manual of the Diseases of Infants and Children. By John Ruhrah, M.D., Professor of Diseases of Children in the College of Physicians and Surgeons, Baltimore. Illustrated. Fourth edition. Thoroughly revised. Philadelphia and London: W. B. Saunders Company. Baltimore: The Medical Standard Book Co. Cloth, $2.50 net. 1914.

For those who desire the pith of affections peculiar to children, no better book can be procured than Ruhrah's. It is written by an expert with many years' experience as a teacher. It contains the real meat of the cocoanut, and is devoid of the frills and fancies of the larger textbooks. If the former editions have proven useful, the present should prove more so, as the additions and removals bring it as nearly up to date as is possible with a textbook. It will be found particularly useful as a student and general practitioner reference book, being small, but sufficiently fulsome for all practical purposes. Those procuring it will find it a well-balanced book in every feature.

The Tuberculosis Nurse. By Ellen N. La Motte, R. N., Graduate of Johns Hopkins Hospital. Former Nurse-in-Chief of the Tuberculosis Division, Health Department of Baltimore. Introduction by Louis Hamman, M.D., Physician-in-Charge Phipps' Tuberculosis Dispensary, Johns Hopkins Hospital. New York and London: G. P. Putnam's Sons. 1915. Cloth, $1.50 net.

As in everything else undertaken by Miss La Motte, so in the case of this book—thoroughness and mastery of the subject is self-evident. From the standpoint of a nurse, the ground could not be covered more completely. No feature of tuberculosis, as it concerns the nurse, is overlooked; therefore, it should prove

generally useful to nurses, social workers and pupil nurses in a better grasp of tuberculosis as it affects the nursing profession. The increase in tuberculosis, and the menace of the tubercular to his neighbor, renders it necessary that the nurse of today should be well informed in the methods of nursing these patients, and especially the methods used in the prevention of the spread of the malady. Miss La Motte's work, as head of the Tuberculosis Division of the Health Department of Baltimore, renders her particularly well fitted to speak authoritatively upon the subject, and it gives us great pleasure to subscribe our approbation to the finesse with which she has accomplished her task.

A Compend of Obstetrics. Especially Adapted to the Use of Medical Students and Physicians. By Henry G. Landis, A.M.,, M.D., Late Professor of Obstetrics and Diseases of Women in Starling Medical College. Revised and Edited by William H. Wells, M.D., Assistant Professor of Obstetrics in the Jefferson Medical College, Philadelphia; Assistant Obstetrician in the Maternity Department of the Jefferson Medical College Hospital; Formerly Adjunct Professor of Obstetrics and Diseases of Infancy in the Philadelphia Polyclinic; Fellow of the College of Physicians; Member of the Obstetrical Society, etc. Ninth Edition. Illustrated. Philadelphia: P. Blakiston's Sons and Company. 1915. Cloth, $1.00 net.

Unlike most compends this one enters a little more thoroughly into the various phases of the science and art of obstetrics. Whilst not sufficiently full for special reference purposes, still it is complete enough when used in conjunction with class-room notes to answer as a general reference book. The material is, in the main, in accord with the notions of the day, making it an especially useful book in brushing up for State board and other examinations.

The Tonsils, Faucial, Lingual and Pharyngeal, With Some Account of the Posterior and Lateral Pharyngeal Nodules. By Harry A. Barnes, M.D., Instructor in Laryngology Harvard Medical School; Surgeon in the Department for Diseases of the Nose and Throat, Boston Dispensary; Assistant Laryngologist Massachusetts General Hospital; Member New England Laryngological and Otological Society; Member American Laryngological, Rhinological and Otological Society. Illustrated. St. Louis: C. V. Mosby Company. 1914. Cloth, $3 net.

As the tonsil is the ash-pile for most bodily ills not referable to other organs, the profession is indeed fortunate to be the recipient of a book so faithfully portraying its anatomy, physiology, symptomatology and treatment. The views expressed by the author are moderate and in accord with the modern conception of laryngologists. Every thoughtful laryngologist is certainly of the same opinion as expressed by the author, viz., the tonsils are important

physiological organs during childhood; they should never be removed without cause; when such exists, their function is either permanently impaired or is easily taken up by the other lymphoid tissues. There should, therefore, be no hesitation on that score in totally removing diseased tonsils. Laryngologists are entirely in accord with the author's statement. Tonsillotomy is entirely inadequate in those cases in which the symptoms depend upon absorption from the crypts. The description of the operative technic of tonsillectomy is lucid, abundantly full and excellently illustrated. Those engaged in tonsillar work should by all means possess the volume. They will find it helpful on more occasions than one.

Medical Electricity, Roentgen Rays and Radium. With a Practical Chapter on Phototherapy. By Sinclair Tousey, A.M., M.D., Consulting Surgeon to St. Bartholomew's Clinic, New York City. Second Edition, Thoroughly Revised and Greatly Enlarged. Containing 798 Practical Illustrations, 16 in Colors. Philadelphia and London: W. B. Saunders Company. Baltimore: The Medical Standard Book Co. 1915. Cloth, $7.50 net.

Those looking for reliable information on medical electricity can do no better than by consulting Tousey's book on Medical Electricity. Static electricity, dynamicelectricity, physiological effects of electricity, electropathology, electrodes, electrodiagnosis, ionic medication by electrolysis, electricity in diseases of the nervous system, high-frequency currents, phototherapy, the X-ray, radium, etc., are thoroughly but not too fulsomely covered. This edition of Tousey's makes it the last word on the subject, so that student or practitioner who desires a trustworthy reference book on medical electricity can get it here. Though not a manual, still it is deleted of overly scientific materials so as to render its material intelligible to the average reader. It gives us great pleasure to put our stamp of approval upon so meritorious a work.

Pathological Technic. By Frank Burr Mallory, A.M., M.D., Associate Professor of Pathology, Harvard University Medical School; Pathologist to the Boston City Hospital. And James Homer Wright, A.M., MD., S.D., Pathologist to the Massachusetts General Hospital; Assistant Professor of Pathology, Harvard University Medical School. Sixth edition. Revised and enlarged. With 174 illustrations. Philadelphia and London: W. B. Saunders Company. Baltimore: The Medical Standard Book Co. Cloth, $3 net. 1915.

Mallory and Wright's Pathological Technic needs no commendation from the reviewer. It has long since proven its utility and reliability. In fact, so much so that it has now become a standard work. As a reliable exposition of the present status of pathological technic, no better work can be found for student pur-

poses. It is well written, moderate in tone, fully illustrated and, as far as possible, devoid of debatable questions. Amongst the new inserts are descriptions of Bielschowsky's silver impregnation stain for nerve fibers and for connective tissue fibrils and reticulum, Bensley's methods for the demonstration of mitochondria and other cytoplasmic granules, the complement fixation test for gonorrhoeal infection, Lange's colloidal gold test for syphilis of the central nervous system, etc. Those using the present edition will find it fully up to the standard of its predecessors. It is therefore with great pleasure that we can thoroughly recommend it to our readers.

Clinical Diagnosis. A Manual of Laboratory Methods. By James Campbell Todd, Ph.B., M.D., Professor of Pathology, University of Colorado. Illustrated. Third Edition, Revised and Enlarged. Philadelphia and London: W. B. Saunders Company. Baltimore: The Medical Standard Book Co. 1914. Cloth, $2.50 net.

This manual is of sufficient scope to meet the demands of medical students and the needs of the general practitioner. It covers the field of laboratory diagnostics well and sufficiently thoroughly. To each subject treated enough space is allotted to intelligently present the discussion to the reader. Included in the contents are chapters on serodiagnostic methods, the urease methods for urea in urine, blood and spinal fluid, Volhard method for chlorides in urine, etc. If one is looking for a clear and concise presentation of the more important of the laboratory methods, it is to be found here.

Diagnostic and Therapeutic Technic. A Manual of Practical Procedures Employed in Diagnosis and Treatment. By Albert S. Morrow, A.B., M.D., Clinical Professor of Surgery in the New York Polyclinic; Attending Surgeon to the Workhouse Hospital and to the Central and Neurological Hospital. With 860 Illustrations. Mostly Original. Second Edition, Thoroughly Revised. Philadelphia and London: W. B. Saunders Company. Baltimore: The Medical Standard Book Company. 1915. $5 net.

The above book is a high-grade minor surgery. It goes thoroughly into those little details in the diagnosis and treatment of such conditions as transfusion of blood, infusion of normal salt solution, acupuncture, venesection, scarification, cupping, leeching, vaccination, administration of salvarsan, the treatment of neuralgia by injections, Bier's hyperemic treatment, exploratory punctures, etc. It deals principally with subjects which are thought too insignificant by the general text-book, subjects which most authors erroneously suppose the student and inexperienced doctor acquire spontaneously. The student is sufficiently well drilled in the major principles of surgery, but such a little procedure as

cupping, for instance, is passed over in silence by the instructor. It is, therefore, well that the present book has been presented the profession, as it supplies them under one cover many little details which they would find trouble in getting elsewhere.

THE PRINCIPLES OF HYGIENE. A Practical Manual for Students, Physicians and Health Officers. By D. H. Bergey, A.M., M.D., First Assistant, Laboratory of Hygiene, and Assistant Professor of Bacteriology, University of Pennsylvania. Illustrated. Fifth Edition, Thoroughly Revised. Philadelphia and London: W. B. Saunders Company. Baltimore: The Medical Standard Book Co. 1915. Cloth, $3 net.

Those subjects which are peculiar to the branch of hygiene are treated in the above-mentioned book, namely, air, ventilation, heating, water and water supply, the removal and disposal of sewage, garbage disposal, food and dieting, clothing, exercise, personal hygiene, school hygiene, soil, etc. As heretofore, those who must consult a book of this character will find this one sufficiently modern, concise and practical to meet their most exacting demands. It is well illustrated, and contains the latest developments of the subject. Hygiene is ever receiving greater and greater attention from the profession, for it realizes that prevention of sickness is more desirable than cure. Therefore a book which contains the underlying principles upon which the subject is based, especially if in an attractive form, should be sought after. The Principles of Hygiene, by Bergey, meets these conditions. It is therefore with great pleasure that we recommend it to our readers.

A TEXTBOOK OF HISTOLOGY. By Rudolph Krause, A. O. Professor of Anatomy at the University of Berlin. Translated from an original manuscript and printed only in the English language. With 36 illustrations in the text, three of which are colored. The references to illustrations given in the text relate to the colored illustrations contained and published in Dr. Rudolph Krause's "A Course in Normal Histology." New York: Rebman Company. 1915. Cloth. $2.50 net.

Nothing better in the way of a histology has come to our notice for many a day. It is absolutely modern and contains the last word on histology. The treatment of the subject is ideal, being divided into the natural divisions of cell, tissue and organs, for, after all, the body is composed of a mass of cells, which cells go to form the tissues, and in a more differentiated form the organs. The illustrations are excellent and the contents clear, brief and to the point. It is a book which should be possessed by every American student, for its description of the minute anatomy of the body is so clear that it is bound to get them started on the study of medicine with the right idea, namely, histology is the foundation of a proper understanding of anatomy, physiology and pathology.

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BALTIMORE, NOVEMBER, 1915

LIMITATION OF OFFSPRING.

SINCE the introduction of eugenics into medical discussion there has been waging a constant war between the advocates and opponents of limitation of offspring. Strong arguments both pro and con have been advanced by one side or the other. Those against claim that it is criminal for human agents to interfere with the course of nature; those for make the reply that it is criminal to bring undesirables into the world. It is, therefore, high time that some solution of the problem be arrived at. Unquestionably the ultra-rich class has become wise as to the methods for the prevention of conception. The women of this class do not desire the annoyances necessarily incident to the rearing of a family. They desire leisure to pursue their idle foibles. Surely it seems inherently wrong for those who are able to give their offspring all of the advantages of life to checkmate the mandates of nature. But there is another side to the question, namely, the introduction into the world of large numbers by the hopelessly poor. These children start out with practically no chance at all, only a very small proportion of the children of this class is ever able to surmount the obstacles of civilization and improve their condition. In most cases the child is ushered into the world improperly nourished, with no prospect of ever getting the sort of food which is necessary to the production of a healthy mind and body. At a very tender age he is compelled to enter the ranks of the workers, after which it is im-

possible for him to acquire the proper education for advancement. His only prospect in life is to serve the upper classes. In fact, from the day of his birth he is doomed as the chattel of the rich. Unskilled and improperly educated, he must take whatever work he can obtain, and at the price of the employer. From the nature of things he is a detriment to his country. Raised in vicious surroundings, he is extremely liable from example and inclination to resort to undesirable practices to gain a miserable existence. But what else can we expect? Surely nothing. He goes to recruit the insane asylums, the jails, the penitentiaries, and the almshouses. This is the penalty he has to pay for his begetting. Therefore, all this hue and cry about the falling off of the birth-rate is more or less alarmist in nature. The world can supply food for only a definite number of people. When that number is exceeded, someone must go hungry. Is it not better, then, that people be taught the ordinary means for the prevention of pregnancy rather than bring into the world an army of undesirables, which is of no advantage from a moral, pecuniary or ethical viewpoint to the nation or to themselves? Far better to any nation is a reasonable number of healthy, vigorous citizens than a host of weaklings both physically and mentally. If every child born into the world could be assured of a reasonable chance of building up a healthy body and mind, then there would be some reason for the wail of the lessened birth-rate howler. But such is not the case, and under present conditions cannot be the case. The prospect of an improper start in life and a constant struggle for the bare necessities of life is justification enough for the parents of this class to endeavor to prevent conception. Bear in mind, there is a distinct difference between the prevention of conception and the production of abortion. One is as different from the other as night from day. It should be the aim of the commonwealth to disseminate any knowledge which teaches limitation of offspring by the prevention of conception rather than to make it a criminal offense. Modern thought is trending toward fewer but better babies, and the sooner the better for all parties concerned—the family, the city, the State, the nation.

Medical Items.

Dr. Harry Lyman Whittle announces the opening of his office, laboratory and operating-rooms for diagnosis, study and treatment of diseases of infancy and childhood at 5 E. Mt. Royal avenue. Consultation hours, 3 to 5 and by appointment. Telephone, Mt. Vernon 756.

During the month of September 189 new cases of typhoid fever were reported, with 22 deaths, as against 130 cases during September, 1914.

Senior Surgeon Henry R. Carter, U. S. P. H. S., in charge of the Marine Hospital at Baltimore, has been detailed by Surgeon-General Rupert Blue to co-operate with the State Board of Health in stamping out malaria in Virginia.

Suits amounting to $15,000, brought against Dr. Alexander E. Muse, in which damages were claimed for injuries alleged to have been sustained by a 3-year-old boy who was struck by an automobile belonging to Dr. Muse, were decided in favor of the physician October 1, as the fact was established that the automobile was being driven by a colored man without permission from Dr. Muse.

Dr. William F. Lockwood, formerly dean of the College of Physicians and Surgeons, has been chosen dean of the School of Medicine of the University of Maryland to fill the vacancy caused by the death of Dr. R. Dorsey Coale. Dr. Lockwood is a graduate of that school and professor of medicine in it.

Dr. B. Merrill Hopkinson, professor of oral hygiene in the University of Maryland, delivered the introductory address to the students of the several classes.

Dr. John D. Blake of 1014 W. Lafayette avenue has been appointed Health Commissioner of Baltimore, to succeed Dr. Nathan R. Gorter, resigned.

Dr. Nathan R. Gorter, former Health Commissioner of Baltimore, has qualified as a member of the State Board of Health, to which he was appointed by the Governor soon after his successor as Health Commissioner was named by the Mayor.

Dr. C. Hampson Jones, Assistant Health Commissioner of Baltimore City for 20 years, has been appointed chief of the bureau of communicable diseases in the State Health Department by the State Board of Health. He will take charge of the bureau November 1.

As a means of showing its appreciation of the 20 years' services of Dr. C. Hampson Jones as a public health official of Baltimore City, the medical profession is planning to present him with a fitting testimonial.

At a meeting of physicians recently held at the Medical Library, a movement was started for the organizing of the Physicians' Civic Club, the object being to familiarize physicians with the city government and other subjects of interest to them. Dr. William T. Watson was elected temporary chairman and Dr. Frederic V. Bietler temporary secretary. The chairman was authorized to appoint two committees —one to draft a constitution and by-laws and the other to nominate officers.

Dr. William H. Welch, a member of the Rockefeller Medical Mission, who is on his way to China, has reached Tokyo, Japan, where he, with the other members of the mission, were entertained by the Japanese Premier.

Dr. Robert H. Crawford has returned after several months' duty with the Red Cross unit in Galicia.

The first fall meeting of the board of Johns Hopkins Hospital was held October 2 in the hospital board room.

The semi-annual meeting of the Medical and Chirurgical Faculty of Maryland was held in Westminster, October 28.

Dr. Samuel J. Fort has been appointed an inspector to the State Bureau of Statistics and Child Labor. He succeeds Dr. John C. Travers.

Dr. Mary R. Fleming, a medical missionary of the Presbyterian Church, has arrived at Tabriz, Persia. She is a graduate of the Johns Hopkins Medical School, and at Tabriz will be physician and surgeon in charge of the hospital for women.

Dr. Francis W. Janney announces the removal of his offices from 327 N. Charles street to the Bowen & King Building, 405 N. Charles street. His practice is limited to the eye, ear, nose and throat. Consultation hours, week days, 9 A. M. to 1 P. M.

Dr. George W. Dobbin and Dr. John McF. Bergland desire to announce that they have

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formed a partnership for the practice of obstetric surgery, with offices at 56 W. Biddle street. Consultation hours, 10 to 12 A. M. daily, except Sunday, and by appointment.

ENGAGEMENT

The engagement is announced of Alex. McC. Stevens, M.D., Johns Hopkins Medical School, '11, to Miss Meta Goldsborough Tharp, both of Easton, Md. The wedding will take place the early part of January. Dr. Stevens is at present a deputy State health officer, with headquarters in Salisbury, Md.

MARRIAGES.

Eugene Bascom Wright, M.D., University of Maryland Medical School, '09, formerly of 1017 Cathedral street, to Miss Elsie Everett Daub of Baltimore, formerly of Wheeling, W. Va., at Philadelphia, September 11, 1915. Dr. Wright was resident physician at the Church Home and Infirmary for three years, and resident surgeon at the Hebrew Hospital.

J. Holmes Smith, Jr., M.D., U. S. P. H. S., formerly of 37 W. Preston street, Baltimore, to Miss Mildred Clara Oliver of New Orleans, La., at New Orleans, September 22, 1915. Dr. Smith was formerly associated with the anatomical department of the University of Maryland.

Edward Lingen Bowlus, M.D., University of Maryland Medical School, '06, of Middletown, Md., to Miss Georgia Martin Potter of Baltimore, Md., at Baltimore, October 6, 1915. Dr. and Mrs. Bowlus will reside in Middletown.

DEATHS.

C. H. Fultz, M.D., College of Physicians and Surgeons, '07, of Vanceburg, Ky., died at his home September 3, 1915, aged 39 years.

William Dudley James, M.D., University of Maryland Medical School, '81, a practitioner of East Brady, Pa., died at the Kittanning (Pa.) Hospital, August 14, 1915, from cirrhosis of the liver, aged 55 years.

Luther H. Keller, M.D., College of Physicians and Surgeons, '75, of Hagerstown, Md., a Fellow of the American Medical Association; a specialist on diseases of the ear, nose and throat, died in the Washington County Hospital, Hagerstown, September 30, 1915, from heart disease, aged 63 years.

Orson Pope Kingsley, M.D., Baltimore Medical College, '07, of Brush, Colo., a veteran of the Spanish-American War, with service in the Philippines, died in a hospital in Denver, September 23, 1915, aged 36 years.

Ithamar Davisson, M.D., Baltimore Medical College, '93; College of Physicians and Surgeons, '10, died at his home in Flemington, W. Va., July 4, 1915, from cerebral hemorrhage, aged 60 years.

Charles C. Taggart, M.D., University of Maryland Medical School, '87, died at his home in Marshfield, Ore., September 11, 1915, aged 49 years.

F. W. Max Klonk, M.D., Baltimore Medical College, '94, died at his home in Oakland, Cal., October 2, 1915, aged 63 years.

John Dickson, M.D., University of Maryland Medical School, '52, for many years a practitioner of Baltimore, but for the last 25 years a resident of California, died at his home in San Francisco, September 15, 1915, from senile debility, aged 84 years.

William T. Boyd (license, Maryland) of Upper Falls, Md., died at the home of his father in Lebanon, Pa., from disease of the lungs, September 14, 1915, aged 55 years.

Thomas H. Collins, M.D., Baltimore University, '03, milk inspector of Lawrence, Mass., died at his home in Lawrence, April 7, 1915, from sarcoma of the stomach, aged 35 years.

Garland E. Huddle, M.D., Baltimore University, '92, a member of the Kentucky State Medical Association, for several years health officer of Bowling Green, Ky., died at his home in Bowling Green, August 3, 1915, from nephritis, aged 44 years.

Martin Bernard Roddy, M.D., Baltimore Medical College, '09, a fellow of the American Medical Association and an esteemed practitioner of Lynn, Mass., died in the Lynn Hospital, August 12, 1915, two days after an operation for appendicitis, aged 29 years.

Silas Jones, M.D., University of Maryland Medical School, '75, died at his home in Galion, Ohio, August 12, 1915, from valvular heart disease, aged 60 years.

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EXCISION OF THE COMMON CAROTID ARTERY IN CONNECTION WITH STARVATION TREATMENT OF MALIGNANT GROWTHS—CASE REPORTS.

By G. Hauer Everhart, M.D.,
Medical Director, Skin and Cancer Hospital, Baltimore, Md.

THE history of the "starvation method" of treating tumors, both malignant and benign, is in such a chaotic state and seems so full of inaccuracies that I will not attempt to go into the subject at the present time, other than to mention a few of the most conspicuous facts.

The first time this method was employed was either coincident with the discovery of the circulation of the blood or shortly afterward. Harvey used it to remove a tumor of the testicle. His method, which is followed even at the present time, was to tie a ligature around the pedical of the growth and wait for it to slough off.

From this operation to the tieing off of pediculated tumors to ligating blood vessels, and particularly the tieing off of the carotids, was an enormous stride, and does not appear to have been taken until 1809, when Travers ligated the common carotid for the relief of aneurism. Since that time many other men have performed this operation as well as the ligature of the external carotids for the relief of various forms of malignancy, but looseness of reporting and glaring inaccuracies in diagnosis leave us in doubt as to its real value until Wyeth, in 1878, and Dawbarn, in 1902, each collected his cases for publication. Both of these writers stated they had procured some good results, but had also met with many failures. The latter they attributed to dangers of the operation with the resulting high death rate. Again, in many of their cases the ulcers did not show any disposition to heal, which was probably due to the fact that no attempt was made to remove the diseased tissue. Nevertheless, both operators believed that the ultimate cure of malignancy depended upon the starvation method, and hoped to find a means of reducing the mortality of the operation.

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The method employed in the cases to which I am about to call your attention differs from all previously reported. While the number of cases is too limited and the time since operation too short for my conclusions to be absolutely final, it is interesting to note that in each case competent surgeons had regarded the condition as hopeless and not to be benefited by surgery. With few exceptions, all of the cases are alive today, some following their regular occupations and others showing every indication of completely healing. In no case has death resulted from the operation itself.

No extravagant claims are made for this treatment, for, as mentioned above, Time, the Great Tester, has not passed upon the finished work. I am giving you my methods and results to date, that you may draw your own conclusions. At a later date, when I contemplate a report on other cases, I shall call attention to the following and their conditions at that future time.

In selecting a site for the ligation of the common carotid, almost its entire length is available, but the higher up the incision is made, the less the danger of injuring the pneumogastric nerve.

After the patient is placed on the table, his head must be well extended and the face averted to the opposite side. A sand bag placed under the shoulders will be of great value in giving a better field for the work intended. The side selected must be the one where the growth is located. After using the ordinary technique in preparing the surface for operation, an incision is made on the skin surface about two inches in length, just long enough for the operator to work in comfort.

The skin, fat and fascia having been divided, use the blunt end of the knife in separating the fibers of the platisma myoides and other muscular fibers encountered. Use the index finger as a guide until the sheath of the common carotid is reached. Separate the sheath and, after having exposed the artery to view, pass two forceps underneath. Then take two ligatures of heavy black silk which have been boiled in 10% formalin solution and allowed to stand in same for 48 hours, clasp them with the forceps and draw under the artery. Tie at a distance of from one to one and one-half inches. Do not cut the artery, but bring the ends of the ligatures without the sheath and close the sheath between them. The muscle, fascia and skin are likewise closed, leaving a fistular opening at each end. From these two openings within 21 to 28 days the silk is discharged in toto. The tie is still in evidence, and the excision of the common carotid is effected, with 100 per cent. of recoveries from the operation itself.

The extirpation of the growth is secondary to this, though one must bear in mind to remove the infected tissue as far as possible. This is followed with what is known as the "agglutination method" of treatment, consisting of superheated air and high-frequency fulgeration. If possible, the wound is then closed, but

should this not be practicable, dry dressings should be applied and the wound allowed to granulate.

Case 1.—White female child; age 10 months. Referred November, 1912, by Dr. L. Richardson.

Family History: Paternal side free from any malignancy. Maternal side: nearly every member had died of some form of malignancy.

Physical Examination: A lump about the size of a small egg found at the angle of the right jaw. Child suffering from dyspnoe from pressure. Lump supposed to have existed since birth. Cachectic and emaciated.

Operation: November 25, 1912. Growth removed. The right common carotid ligated immediately below the bifurcation of the external and internal carotids. The wound where the growth was removed was treated by the agglutination method. Sutures returned in 28 days.

Microscopic Findings: Angio sarcoma.

Results: Wound healed rapidly; gained in weight; two years after operation contracted diphtheria and died; no return of growth.

Case 2.—White male; salesman; age 50 years. Referred by Dr. Albert Levy.

Family History: No history of malignancy.

Physical Examination: Growth on middle third of tongue, three years' duration; glands of the neck involved.

Operation: February 20, 1913. Growth and large amount of tongue tissue removed. Common carotid ligated rather low down, on account of glandular involvement.

Microscopic Findings: Carcinoma.

Result: Made good progress for three weeks. At the end of that time he was given an anesthetic for a minor complaint; after about the third inhalation he died. No autopsy was made, but I attribute his death to the anesthetic, and have never given a second anesthetic since in cases where the carotid was ligated.

Case 3.—White male; age 26 years; cotton duck operator.

Family History: Maternal aunt died of carcinoma of breast.

Physical Examination: Cachectic, highly nervous, dyspnoe pronounced; lump about three inches in circumference found at angle of the left jaw; about 16 months duration.

Operation: March 24, 1913. Growth removed and wound treated with superheated air and high-frequency fulgeration. Common carotid ligated below its bifurcation. Ligatures returned intact 28 days after.

Microscopic Findings: Angio sarcoma.

Result: Wound healed and discharged on April 30, 1913. At present is following his occupation, with no evidence of a return of growth.

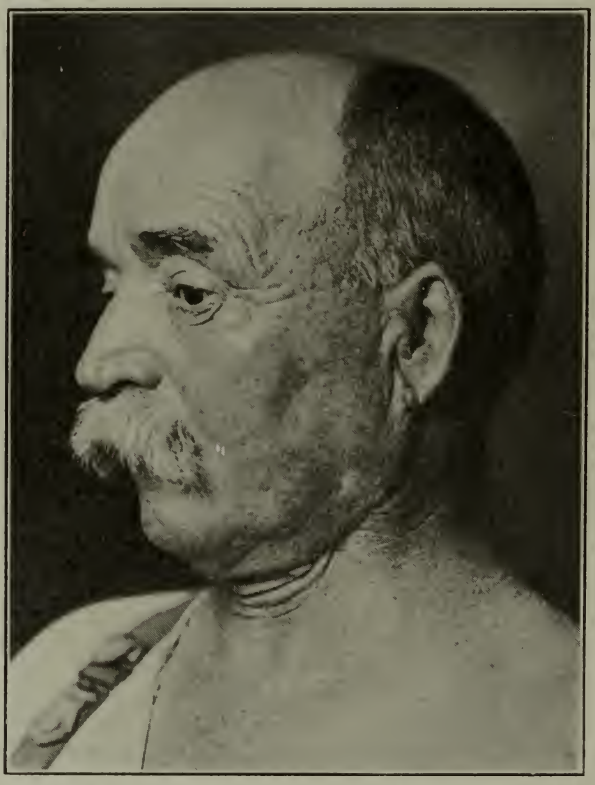
Case 4.—White male; age 64; shoemaker. Referred by Dr. R. Price.

Family History: Negative.

Physical Examination: Large growth at base of tongue; glandular involvement.

Operation: Removal of tongue and glands, February 1, 1913. Ligation of the common carotid on April 12, 1913. Return of the ligatures 28 days later.

Microscopic Findings: Carcinoma.



Sarcoma at angle of the jaw, left common carotid excised. Two years later. (Case 6.)

Results: No apparent good was done by the operation, and the patient died in November of the same year.

Case 5.—White female; age 64 years.

Family History: Full of contradictions. Regarded as worthless.

Physical Examination: Ulcer 4x5 inches, involving ear on left side, extended into scalp. Parietal bone denuded. Two years duration. Glandular involvement.

Operation: March 21, 1913. Ligature of left common carotid.

Removal of all diseased tissues by the agglutination method. Ligatures returned in 25 days.

Microscopic Findings: Carcinoma.

Result: Ulcer healed rapidly. No return since.

Case 6.—White male; age 63 years; farmer. Referred by Naval Surgeon, Annapolis, Md.

Family History: Mother died of carcinoma of breast.

Carcinoma 4½x4½ inches of the face and head as cicatrix indicates. The right common carotid excised.
(Case 7.)

Physical Examination: Growth at angle of left jaw about the size of a walnut. Glandular involvement. One year duration.

Operation: September 11, 1913. Removal of growth and glands; wound treated by agglutination method. Left common carotid ligated. Ligature returned in 26 days.

Microscopic Findings: Carcinoma.

Results: Wound healed rapidly. No return at this date.

Case 7.—White male; age 63 years; laborer. Referred by Dr. Gibbs.

Carcinoma of the lower lid and eye with excision of the right common carotid. (Before operation.) (Not classified.)

Resolution healing in a month. (Eight months after operation.) (Not classified.)

Family History: No history of malignancy.

Past History: Had been treated for the growth for two years. Two general hospitals, after keeping patient for a few months, informed him that his case was hopeless, and would not operate.

Physical Examination: Ulcer 4½x4½ inches, extending over right side of cheek, scalp, involving the parietal bone; right ear gone. Marked glandular involvement.

Operation: January 6, 1913. Removal of glands, diseased tissue and bone tissue. Wound treated by agglutination method. Right common carotid ligated. Return of ligatures in 28 days.

Microscopic Findings—Carcinoma.

Results: Wound healed in six weeks. No return since. Follows his occupation.

Case 8.—White male; age 56 years; farmer. Referred—

Family History: Mother and sister died of carcinoma of breast.

Physical Examination: Open ulcer on right side of head and face, involving outer table of the frontal bone, 3x4 inches in size.

Operation: January 22, 1915. Diseased tissue removed and wound treated by the agglutination method. Right common carotid ligated. Ligatures returned in 42 days.

Microscopic Findings: Epithelioma.

Results: Slowly healing.

Case 9.—White female; age 69 years; housewife. Referred by the District Nurses' Association.

Family History: One sister has carcinoma of thyroid. Mother and sister died of carcinoma of breast.

Physical Examination: Ulcer 7x9 inches in size. Left ear gone. Temporal and parietal bones involved. Glandular involvement. Had an attack of hemiplegia two weeks before operation.

Operation: January 20, 1915. Diseased tissue removed as far as possible; wound treated by the agglutination method. Left common carotid ligated. Ligatures returned in 28 days.

Microscopic Findings: Carcinoma.

Results: The wound is nearly healed, and I believe she will make a complete recovery.

Case 10.—White male; age 56 years; farmer. Referred by Dr. Coppage.

Family History: Paternal uncle died of cancer of face.

Physical Examination: Ulcer 3½x4 inches, extending from the canal of right ear to canthus of eye, involving superior maxillary and temporal bones. Glandular involvement. Had been treated for some months with radium.

Operation: April, 1915. Removal of diseased tissue as far as possible and wound treated by the agglutination method. Right common carotid ligated. Ligatures returned in 28 days.

Microscopic Findings: Carcinoma.

Results: The wound is almost closed at this time.

OBSTRUCTION OF THE POSTERIOR NASAL ORIFICES (CHOANAE).*†

By John R. Winslow, B.A., M.D., F.A.C.S.,

Baltimore, Md.

Professor of Laryngology in the University of Maryland; Surgeon to Baltimore Eye, Ear and Throat Hospital; Fellow of the American Laryngological Association; Fellow of the American Laryngological, Rhinological and Otological Society, etc.

THIS condition consists in a malformation, causing partial or complete closure of the posterior nasal orifices on one or both sides. The condition may be congenital or acquired, the latter resulting from inflammation or disease.

Congenital atresia results from developmental anomalies occurring in utero, and is characterized by the formation of a partition which consists most often of a thin plate of *bone;* may be mixed, and least frequently is entirely membranous; at times one or more small openings perforate it.

Cases of *congenital* origin occur much more frequently than has been hitherto accepted, many dying at birth, unrecognized, under the general diagnosis of asphyxia neonatorum. Moreover, it cannot be doubted that the majority of those cases first recognized many years after birth are of congenital origin.

Symptoms of congenital choanal occlusion must be discussed under two groups—those manifested in the new-born child and those first observed at later periods in life.

In the neonatus, the prominent symptom of bilateral obstruction is absolute abolition of nasal breathing. Now *mouth breathing* is a habit which these infants must voluntarily acquire or be taught, else they will suffocate. At first they present a constantly-recurring cycle, consisting in embarrassed breathing, with cyanosis and threatening asphyxia, which is relieved by crying, succeeded by a brief period of quietude, when the cycle is repeated. This struggle for breath makes it impossible for the infant to nurse, so that its nourishing becomes a serious problem. Marasmus may develop if the infant survives.

The nasal chambers are filled with thick gelatinous mucus, which must be removed by mop or aspiration.

In older children and adults we have the customary symptoms of nasal obstruction, though shortness of breath occurs only upon strenuous exertion. The obstructed nostril is filled with a thick mucus, resembling egg albumen, of a characteristic and diagnostic appearance. This the patient is unable to blow from the nose, and it flows out over the face, causing irritation and at times eczema of the alae nasi and upper lip. This secretion must be removed either by mopping or with the syringe.

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*Read before the annual meeting of the Medical and Chirurgical Faculty held at Baltimore, Md., April 28, 1915.

†Demonstration of patient.

Owing to obstruction to expiration, *sneezing* is impossible; the sense of smell is either lost or impaired, taste less so, and hearing may or may not be affected. The voice is nasal; the lips are parted; the facial expression is not as markedly altered as in other forms of mouth breathing.

Asymmetry of the face has been reported in some cases of unilateral obstruction; also unilateral sweating. Headache may be a prominent symptom. Asthma rarely occurs.

Diagnosis is based upon the symptoms and objective examination.

In *infants* the curious cycle of respiratory embarrassment is characteristic: If the attack is relieved by holding the infant's mouth open and pulling its tongue out, the obstruction must be nasal or post-nasal.

Examination with the finger in the epipharynx or with the post-nasal mirror cannot be accomplished at this age, nor is anterior rhinoscopy of much value. Irrigation of the nostril with an eye-dropper or inflation with the air bag will demonstrate the impermeability of the nasal chamber. Examination with the probe will determine both the existence and the character of the obstruction.

In older children and adults we have the history of nasal obstruction and difficulty in nursing from childhood; the characteristic albuminoid secretion; douching through the anterior nares; probing; digital exploration; anterior and posterior rhinoscopy with the mirror or the nasopharyngoscope.

Treatment.—The only curative treatment of this condition is operation. In infants the condition is often overlooked, and in adults, especially in unilateral obstruction, the symptoms are often so slightly annoying that they are unwilling to submit to operation.

In the *newborn* the symptoms are life-endangering and the indications for treatment urgent. Owing, however, to the minute anatomic dimensions at this age, the difficulty of instrumental manipulation and of after-treatment and the risks from hemorrhage and shock, operation should only be undertaken under the most compelling indications.

Expectant treatment should be attempted whenever the infant's condition and surroundings permit. The child should be watched every moment, night and day, and every threatening attack of asphyxia averted by depressing the lower jaw by pressure upon the chin, and, if necessary, pulling the tongue forward.

C. W. Richardson of Washington has recently reported the case of an infant just born whose life was saved by these measures.

Feeding should be effected with a spoon or dropper. This plan of treatment should be continued until the habit of mouth breathing is established (about 10 days) and the infant learns to suck from the bottle (three weeks), unless marasmus and inition appear as imperative indications for operation.

The *period of election* for operation is that period when the anatomic development is such that the guiding finger can be in-

serted into the nasopharynx and instrumental manipulations be successfully carried out through the nasal passages.

This should be done in early life, in order to forestall secondary changes in the facial skeleton or complications in neighboring structures, about the tenth year being the most desirable age.

Methods of operation are practically the same in infants and adults, being adapted rather to the character of the obstruction.

Membranous diaphragms are incised with a knife and the opening enlarged as widely as possible with biting forceps. The electro cautery is also used.

Bony plates are perforated along the septum with a chisel, and the opening enlarged as much as possible with bone forceps.

Some operators prefer the trephine driven by electric motor.

These operations are carried out best under general anesthesia, with a protective tampon, or, better, a protective and guiding finger in the nasopharynx.

Frequently it is necessary to remove portions of or an entire turbinal, septal ledges, spurs, etc., to obtain access to the deformity.

Light tamponnade for a few days and careful supervision of healing will prevent excessive granulations and recurrence of the obstruction.

An operation recently devised by Uffenorde consists in elevation of the muco-periosteum along the septum and over the obstructing plate of bone. This flap is then pushed aside and the bone plate removed with the usual instruments. The flap is then replaced, and a vertical incision made in it at the center of the former bone plate. The muco-periosteum is then replaced and held in place with a light tampon.

REPORT OF CASES.

It seldom occurs to any one man to see many of these cases. In all, not over 100 cases have been reported.

My personal experience is limited to three cases:

No. 1.—A young man 19 years of age with double partial bony obstruction, causing respiratory embarrassment and deafness.

This case was successfully operated upon through the mouth with the electro cautery and reported in the *American Medico-Surgical Bulletin*, February 15, 1895.

No. 2.—A girl with right unilateral bony obstruction, causing obstructed breathing and inability to blow the nose. Operation was declined, and I learn that she has never had any trouble nor serious discomfort.

No. 3.—Congenital (?) membranous choanal occlusion, complicated by double spheno ethmoiditis and complete atresia of right naris.

Miss Emma S., aged 20 years, was referred to me by Dr. Wayland Frames, with the history of being unable to breathe through or blow the *right* nostril, which contained an excessive

amount of thick mucus. She could inadequately breathe through and inefficiently blow the *left* nostril.

This condition was attributed by the patient to scarlatina, occurring at the age of 10 years, but the underdevelopment of the choanal structures, later discovered, leads me to consider it congenital.

The patient was pale, thin and underdeveloped. She suffered from headache, and her general health was poor; sense of smell lost; hearing normal. Said that she had been operated upon unsuccessfully by two specialists.

Examination.—External nose small—complete atresia of the *right naris* from a point about one inch within the nostril to the choanae—this being due to cicatricial adhesions from the floor to the attic of the nose, with the exception of a minute canal at the floor of pinhead caliber, extending to the posterior nares. Floor of nose covered with albuminoid mucus.

FIG 1

Left naris obstructed by a deviated septum and bony spur at its middle third.

Examination with the post-nasal mirror showed obstruction of both post-nasal orifices by a diaphragm, the right one having a small perforation at its lower septal attachment, and the left one having two perforations, one about the middle along the septum and another just above it.

Operation (December 12, 1912, from 2.30 to 4 P. M., at the Baltimore Eye, Ear and Throat Hospital).—An injection of Schleich-Adrenalin solution was made into the cicatricial area at various points, powdered cocaine being applied along the turbinals; a probe was inserted into the pinhole fistula, followed by a probe-pointed bistoury, which cut upward along the septum and choanal edge.

A dense synechia between the middle turbinal and the septum was severed with a rectangular knife, and the middle turbinal was resected with Sluder's knife and the snare.

Upon removal of the middle turbinal a large gob (½ oz.) of mucopus dropped upon the floor of the naris. Removal of the turbinal exposed an opening into a large cavity, the sphenoid, whose anterior wall was necrotic.

The ethmoid cells were exsected with Grünwald's forceps and the necrotic anterior sphenoid wall removed. Frontal sinus and antrum were not molested. The right choana was found to be undeveloped, and could not be greatly enlarged.

The naris was packed with gauze strips for three or four days, and the patient then furnished with a long splint of gutta-percha for daily insertion after syringing the nostril.

On February 13, 1913, an attempt was made, under cocaine anesthesia, to cut the two perforations of the left diaphragm into a single one with a long probe-pointed tenotome and biting forceps; at the same time the bony spur at the middle third of the septum was removed with Hajek's chisel. Dressed with a long rubber-covered Simpson splint. The patient was kept under observation until March 12, 1914. At this time she breathed well through the right naris, and could blow the same. There

Fig 2

was little discharge, and that mainly in the morning. Her general health was greatly improved. She could inhale through the left nostril, but had difficulty in blowing it. The post-rhinoscopic picture was that shown in Figure 2. A triangular opening existed at the lower septal side of the right choana. By anterior rhinoscopy the movements of the pharynx could be seen through this.

On the left side was a single perforation about the middle of the membrane; the lower portion of the obstruction had not been removed.

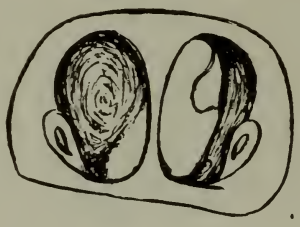
On November 18, 1914, the patient was demonstrated at the Baltimore Eye, Ear and Throat Hospital to some visitors from the meeting of the American College of Surgeons. At this time the right naris was open and free from discharge. The left side was not free, and the patient complained of suboccipital headache upon this side. Upon probing the anterior sphenoid wall felt carious, and operation was advised.

On December 18, 1914, the patient was etherized, and in the semi-recumbent position the posterior half of the left inferior turbinal was removed with scissors and snare, and the middle turbinal with Sluder's knife and Grünwald forceps.

Turbinal remnants and the posterior synechia were removed with the largest Grünwald, under the guidance of the finger inserted into the nasopharynx. After completion of the operation the tip of the index finger could be inserted well into the left choana. An attempt was made to further enlarge the right orifice, but the bone was too dense to be cut. The left anterior sphenoid wall was carious and easily removed with sphenoid forceps. A long rubber-covered Simpson splint was used for 12 hours, and subsequently a cotton-tipped applicator passed often enough to prevent closure of the opening.

Present Condition.—Following these operations, with the assistance of tonics, the patient improved greatly in her general health, and her weight, which had never exceeded 95 pounds, increased to 110; her appetite is good; her nasal breathing is

FIG 3



excellent, and she can blow both nostrils satisfactorily; headaches have disappeared; no pus is present in either nostril.

Both nostrils are free, and the movements of the posterior pharyngeal wall can be seen through each side. The sphenoid openings are large, and the interior of each sphenoid cavity can be inspected and probed.

The post-rhinoscopic picture is that shown in Figure 3. A moderate-sized triangular opening to the septal side at the floor of the right choana, and a vertical ovoidal opening upon the left side, much smaller than normal, but for all purposes adequate.

References.

C. M. Richardson: Congenital Atresia of Post-nasal Orifice. *Lancet,* August 15, 1914.

C. Zarniko: Die Krankheiten der Nase und des Nasenrachens.

TWO IMPORTANT DIGESTIVE SYMPTOMS—THEIR INTERPRETATION.*

By Ernest H. Gaither, M.D.

In order to properly approach and present this subject it will be necessary to dwell a few moments upon some essential facts which must always be considered in every case in which a digestive diagnosis is desired.

First of all, it must be assumed that before one takes up for consideration and special study—diseases relating directly to certain organs—he must have a thorough fundamental appreciation from a physiologic-pathological standpoint of the body as a whole—that is, he must be familiar with the subject of internal medicine, and must take cognizance of this fact by thoroughly investigating each and every unit of the body, before assuming to study diseased conditions of any group or groups of specifically stated organs. Therefore, when one is consulted upon the subject of digestive diseases he should enter upon a close observation and study of the symptoms with an unbiased mind, forgetting the digestive phase until it is virtually forced upon him by the positive and negative findings, subjectively and objectively, from historical, physical and clinical points relative to this group of organs.

It has always seemed to the writer an incontrovertible fact that on innumerable occasions when questioning patients we apply many queries which, if answered, are absolutely superfluous, in so far as instructive knowledge goes, from the physician's standpoint; that is, we ask questions, and if we were requested to explain what they mean to us if answered in the negative or affirmative, I am afraid many times we should be unable to set forth our "Whys and Wherefores," so the prime object of this paper is an endeavor to clarify, if possible, these problems which confront us in every-day practice.

There are quite a few digestive symptoms which could most advantageously be discussed, but because of the limited time will take up for consideration two symptoms which appear to be of marked importance, namely, "Pain" and "Occult Bleeding."

PAIN.

It may be well worth while to pause a moment in order to give a brief explanation of pain phenomena in the digestive tract, as established by Hertz, Meltzer and other observers.

Formerly it was thought that pain was due to the corroding and irritative influences of the acid gastric contents acting directly upon the exposed nerve endings of the denuded and eaten-out mucous membrane. This theory has been supplanted by one that

*From the Digestive Clinic of the Johns Hopkins Hospital Dispensary.

appears to be more rational and sound from pathologic and physiologic standpoints.

Bayliss and Starling clearly established the law of the intestine, i. e., "Stimulation at one point causes contraction above and relaxation below," following this theory out to a certain extent. Hertz, in short, has shown conclusively that "the only immediate cause of true visceral pain is tension; this is exerted on the muscular coat of hollow organs, and on the fibrous capsule of solid organs. The sensation of pain in the alimentary canal is due to more rapid or greater increase in tension on the fibres of its muscular coat than that which constitutes the adequate stimulus for the sensation of fullness. Further, "pain in diseases of the alimentary canal is most frequently true visceral pain; it is sometimes due to the spread of the disease to surrounding sensitive structures or to tension exerted on the peritoneal connections; it may also be situated in the skin, muscles and connective tissues, to which it is referred from the segment of the central nervous system, which receives the afferent nerves from the affected organ.

Having clearly established the fact that true pain is present, we should have a definite line of procedure to follow in order to bring out instructive information. It seems that the following points would be of value:

1. Anatomical Location.
2. The Character.—(Sharp, dull, boring, burning, gnawing, tearing), etc.
3. Relationship or Non-Relationship to Intake of Food.—(Immediately before or after meals—15 minutes to 1 hour or longer, or does food have no effect).
4. Mode of Onset and Disappearance.—(Does it appear suddenly and leave in like manner? Does it appear gradually and after awhile reach an acme, then subsiding in the manner in which it appeared?)
5. Is Pain Relieved by Vomiting?
6. Influence of Character of Food on Pain.—(Solids, mushy, liquids).
7. Temperature.—(Hot or cold foods or drink).
8. Exercise.—(Walking, running, swimming, etc.).
9. Posture.—(Lying, sitting, standing).
10. Weather.—(Spring, Summer, Fall, Winter).
11. Periodicity.

1. *Anatomical Location.*

While, of course, there are exceptions to all rules, yet in the vast majority of cases the pains due to true organic lesions generally appear at definite points, namely, oesophageal ulcers in epigastrum or behind sternum, gastric and duodenal ulcers—in epigastric umbilical or right lumbar and right hypochondriac regions (of course remembering radiation to other points)—gall bladder affections, under right costal arch, right lumbar and right

hypochondriac regions, with the possibility of radiation in any direction; but it is far from unusual to find even the primary starting point in the epigastrium or under the left costal arch. Pancreatic diseases are manifested mostly in the epigastric and umbilical areas, at times going through to the back. Appendix involvement—acute, whole abdomen—later concentrating in right lower quadrant (majority of cases), umbilical or epigastric regions. Chronic appendicitis may be manifested at almost any point other than the true appendiceal location. Quite a chapter could be advantageously written on "the Vagaries of Chronic Appendicitis." Small intestine—pain seems to be more constant in region of umbilicus, and the more mobile parts of the colon between the umbilicus and pubes. Diseased processes involving the various flexures, rectum, duodenum and terminal portion of ilium generally manifest themselves at the point of involvement—if not at once—than later in the course of the disease. Rectal pain often is referred to a point just above the pubes in mid-line, radiating to sacrum and later becoming localized in the rectum itself.

2. *Character.*

Our experience has been that the gnawing, burning, boring and cramp-like pains are more indicative of the ulcerative lesions, such as aesophageal, gastric and duodenal ulcers, exceptionally a sharp, lancinating pain may be complained of, but this is in the minority of cases. The sharp, lancinating, also tearing variety is especially indicative of gall-bladder involvement; also at times nagging, colicky pains are present, while the heavy, dull boring sensations are in favor of the malignant processes.

Pancreatic affections, particularly of a malignant nature, may be characterized by pain or various kinds, deep in the epigastrium, going through to back, and at times dependent upon body position, otherwise there is nothing of especial import regarding the character of pain, denoting disease of this organ. Colicky pains point to intestinal disease. Rectal pains may be sharp and cutting, but often assume various types.

3. *Relationship* or *Non-Relationship* to *Intake of Food.*

Generally speaking, ulcers show a more intimate relationship to the intake of food than any other lesion, i. e., aesophageal, gastric, duodenal. However, one must not let this point deceive them in the later stages, as at this time one often finds the relationship to food intake entirely lost, the pain coming on at irregular periods, due probably to stenotic processes, thus preventing the complete emptying of the stomach.

Several peculiarities, as pointed out by Moynihan, have been observed by us, namely, in the early stages of ulcer the patient only complains of real pain in the middle of the afternoon after a heavy mid-day meal, later developing the typical dependence upon food intake. In some cases pain is delayed until about four hours after meals. This is attributed to the ulcer being "tucked back" and adherent posteriorly.

"Hunger pain" (pain appearing just before a meal, when hunger is becoming manifest) is generally due to excessive and prolonged secretion of gastric juice, causing a hypertonic condition of the stomach, even when the bulk of food is diminishing, because some acid reaches the ulcer before it is neutralized; thus causing an inhibition of relaxation of the pylorus. The reason pain is relieved by alkalies, and protein or water, is because the first two neutralize the acid, and the water dilutes it. If the gastric contents are evacuated, complete relief ensues.

During the past few years we have noted a large number of cases of cholelithiasis, in which the onset of attacks seemed to be entirely dependent upon the intake of food, apparently due to inhibition of pyloric relaxation, caused by reflex influences from the involved gall bladder. This statement likewise holds good in numerous cases of chronic appendicitis for the same reason advanced above, and in addition we have noted in many of our cases of the latter disease a marked hypersecretion, which, of course, is one of the causative factors of excessive peristalsis—a direct factor in the production of pain.

Intestinal conditions, such as enteritis, colitis, rectal fissures and ulcerations, also hemorrhoids, are affected by the intake of food and evacuation of feces. Excessive motor activity is primarily the cause of all true intestinal pain; for ulceration, as in typhoid, may be present with no pain symptoms, but when ulceration results in cicatrization and stenosis, excessive peristalsis then causes a great rise in internal pressure, and pain results. In carcinoma in the early stages, especially when secondary to ulcer, the cycle is the same as in the latter. At times no pain is experienced, especially in those types that do not attack the pylorus. When the latter is involved pain may appear early, and complete relief never be obtained.

4. *Mode of Onset* and *Disappearance.*

Pain in some instances is preceded for a longer or shorter period of time by fullness, and of this latter symptoms a few words will be spoken later. Oesophageal ulceration, in the majority of cases being near the cardia, is marked by pain of a character referred to above; immediately, or a few moments after the intake of food, ulcer of the fundus, greater curvature, lesser curvature and pylorus, appear from fifteen minutes to two hours, many times first a slight fullness increasing in intensity slowly until finally an acme in the cycle is reached, resulting in pain. This continues at a high level for say 1 to 2 hours, in the greater number of cases, pain then gradually diminishes, fullness ensues, and, lastly, this symptom completely disappears, comparative ease resulting until more food is eaten; in later stages, when cicatrization of the ulcer has resulted in stenosis, complete comfort is never enjoyed unless the stomach is completely evacuated, thereby removing the irritable acid contents or bulk (latter may also cause

symptom). With the latter removed nothing is left on which the gastric musculature may contract.

Bertrand Dawson, in an article in the *British Medical Journal*, 1908, speaking of the time relation of pain to intake of food, says that in cases where there is an inflammatory swelling about the pyloric ulcer, causing partial obstruction, the pain may appear immediately after meals, due to the stenosis, causing almost immediate onset of peristalsis, thus producing a rapid rise in internal pressure.

In cholelithiasis the typical symptoms are rapid and severe in onset, and their disappearance is often as rapid, but many times, even when preceded by this rapidity, cessation may be slow and tedious, followed by much local soreness and tenderness. Gradual onsets do occur independent of food, but in these types of cases their appearance seems related to food intake. Pains in the intestinal tract generally appear and disappear in the same manner as in gastric conditions.

Onset in acute pancreatic disease is mostly of a rapid character, and may remain for some hours with a gradual decline. Carcinoma—pain is generally gradual, preceded by fullness (but where ulcerative processes and stenosis are present its onset may be quite rapid). If the stomach is not voluntarily or involuntarily evacuated relief may be gradual, or complete absence of discomfort may never be noted.

5. *Relief* by *Vomiting*.

Vomiting, of course, occurs involuntarily in many cases, because of inhibition of pyloric relaxation, due to irritability and stenosis from various causes, resulting in relaxation of cardiac end with a retrograde peristalsis. The amount of relief obtained in cases of ulcer, carcinoma, chronic appendicitis and cholelithiasis is, of course, due primarily to the amount of contents evacuated regarding sufficiency in bulk and acidity. It is rare that the stomach is completely evacuated; however, many patients having the above-named conditions claim that in the early stages marked or complete freedom from pain is at least temporarily obtained in this manner. In the late stages, when stenosis is marked, lavage is the only avenue by which complete relief may be obtained.

6. *Influence* of *Character of Food*.—(Solid, soft, liquid).

Our experience has been that in the vast majority of cases, the solid, heavy foods cause the most severe and more prolonged attacks of pain; in oesophageal, gastric and intestinal conditions the manifest reason being a direct stimulation of excessive peristalsis, with subsequent rise of internal pressure, followed in turn by (first) fullness, (second) distinct pain.

Mushy and liquid foods cause the pains to appear quicker, but their time of duration is markedly decreased (however, exceptions to the latter point have been observed wherein the liquids caused pain to appear in less time, and remain for a much longer period than solids).

Condiments, because of their extreme irritability, also have a tendency to bring on painful attacks.

Temperature.—(Hot or cold food and drinks).

While a great deal of importance is not to be attached to this factor, yet at times the attacks seem to be directly influenced by extremes in temperatures of hot or cold.

Exercise.—(Walking, working, running, swimming).

In true organic conditions, such as ulcerations, carcinoma and new growths, the great majority of cases show a decided intensification of symptoms upon exertion. Many patients volunteer the statement that relief is obtained by rest. When we think of tension, due to muscular stretching, etc., incident to over-exertion, it is not hard to conceive of exacerbation being brought on in this manner.

9. *Posture.*—(Standing, sitting, lying).

Most patients have favorite postures which they assume, the relief depending apparently upon the density of adhesions and the amount of involvement of the various organs and their neighboring attachments. Specific attitude for certain diseases are not known to the writer (the thigh flexed in chronic appendicitis being an exception). Yet in the hundreds of cases that he has questioned specifically on this point all, with few exceptions, show some peculiarity in this respect, and have their favorite attitudes.

10. *Weather.*—(Winter, Summer, Spring, Fall).

This point may seem far-fetched, but we do encounter cases where the seasons seem to have influences; this is especially true of duodenal ulcer. Moullin, in an article in *The Lancet*, 1912, gives the following reason as to the cause of attacks due to cold weather, which at least seem plausible, and I shall quote from his statement: "Hyperaemia may be caused in many different ways. Exposure to cold is one of the most common. It is notorious how prone this is to bring back all the symptoms of duodenal ulcer, even after many years of absolute freedom, not as is usually stated because the ulcer has been lying latent all that time, and suddenly springs into life again, but because exposure to cold is one of the most frequent causes of internal congestion, and in any given individual always affects the same part of the body time after time, so that if the duodenum was involved once, it will become involved again."

11. *Periodicity.*—(Weeks or months of freedom from attacks followed by typical symptoms).

Attention should be called to the marked periodicity of duodenal attacks—appearing for some weeks—then an absolute intermittency, followed again by a typical symptom complex. This may occur in any of the digestive conditions exclusive of malignancy, but is especially indicative of duodenal ulcer.

While this paper is devoted primarily to pain, yet one must take this opportunity to sound the warning that the greater number of

cases of cholelithiasis, chronic appendicitis, oesophageal, gastric and duodenal ulcers, and carcinomata of both stomach and intestines, are preceded by the symptom of fulness, usually a premonitory sign of subsequent pain; therefore the former should always act as a beacon light to at least warn us of an impending danger.

Occult Bleeding.

For several years past the intelligent study of the presence or absence of occult blood has added another most instructive agency to our armamentarium of diagnostic methods. The technique of making the examination is simple in the extreme, requiring about three minutes; its description would be manifestly out of place at this time.

Formerly 48 to 72 hours of a diet, with no meat, was considered sufficient preparation, but the writer agrees with Boas that it is manifestly proper and productive of more valid results to eliminate all meats—fish, oysters, chicken, green vegetables, green salads, chocolate, cocoa, red wine, medicine and purgatives of every variety. This procedure should be followed for seven to ten days, and the stools examined.

Three methods are best known and followed by practically all observers, i. e., guaiac, benzidin and phenolphthalein. The first named seems to be the most popular. At the digestive clinic of the Johns Hopkins Hospital dispensary we regularly use the Benzidin reaction with good results; it is, of course, more sensitive than the guaiac, the phenolphthalein being by far the most sensitive of the three.

In addition to extreme discretion regarding diet, as described above, a thorough inspection should be made of the mouth relative to teeth and gums; also nose and throat, the anal region for hemorrhoids and fissures, and rectum for ulcers, polypi, etc. Menstrual blood must not be forgotten. We should always keep in mind oesophageal varices and congestive digestive conditions secondary to cirrhotic changes of the liver, and chronic heart affections.

Having as far as possible eliminated foreign factors, as per above, we are then in a fair position to give an unbiased opinion regarding ulceration (benign or malignant) of the digestive tract.

William Mayo, in a recent statement, declares that he does not lay much stress upon occult blood findings, depending more on X-ray observations. However, the writer fully agrees with Dr. Thomas R. Brown in preferring to depend on history and clinical findings (together with other procedures) in preference to any one mechanical factor, the latter's opinion being well amplified by operative findings. Observation of occult blood is not only of great service from a diagnostic standpoint, but equally of great importance regarding prognosis and treatment.

Extensive experience has thoroughly convinced us that in the majority of cases of ulcerative processes in the digestive system occult blood will prove at some time in the course of the disease

positive. Of course, in cicatrized ulcerations, where healing has taken place, one would not expect a positive result.

One of the most significant points to be enumerated regarding the differentiation between benign and malignant processes is the improvement and disappearance of this agency in the former, while in the latter persistence and increase in intensity of reaction marks the progress of the carcinomatous degeneration. In benign ulcerations, when properly treated, i. e., rest in bed—24 to 36 hours' starvation—followed by liquid, mushy and soft foods, we find practically always a marked diminution, followed by complete absence of blood. In marked contrast to this, those ailments of a malignant ulceration, no matter what the treatment (even if as per above), the reaction remains at least marked, or, what is more likely, shows an increase in intensity.

At this moment it seems pertinent to speak of the discovery of the transformation of a benign ulceration to malignancy. When, in spite of ideal treatment, blood findings show a tendency to persist or increase in those cases that have shown typical or atypical ulcer symptoms, we should always be at least suspicious of malignancy, and act accordingly.

In benign cases the lessening of the intensity of reaction, followed by complete absence of blood, is a splendid index and guide as to the dietetic course to follow. Boas' method of first applying the gross guaiac, then benzidin, and finally phenolphthalein tests to prove absolute absence of ulcerative process, is an excellent method.

We have been greatly impressed by the following point, which, needless to say, requires a good deal of experience, i. e.: In malignant conditions the reaction appears practically instantaneous, and with marked intensity of color, while in benign diseases the reaction is slow in appearing, and not nearly so intense. Exceptions are, of course, at times noted. Because of interference in motility the stenosing, scirrhus variety, causing pyloric obstruction, may not show so marked a reaction as the diffuse variety, affecting the other portions of the organ; in these latter cases because of a great deficiency or absence of hydrochloric acid the pylorus is generally patent, thus allowing evacuation to be increased instead of diminished.

In the former variety it may be instructive to examine the gastric contents, which often are found to be filled with blood. It must also be remembered that the same stenotic process whereby the blood reaction is materially diminished may be found in like conditions in the esophagus, small intestine and colon. Do not forget that recurrence of bleeding may take place in benign processes, due to excesses of various kinds or ulceration at another point; the procedure of differentiation is, of course, carried out by the method described above.

In occult blood examination never be satisfied with one investigation, but make at least three or four before coming to a defi-

nite conclusion. It is important to remember that there are cases in which the mucous membrane of the stomach seems to be especially prone, upon the slightest provocation, to bleed. This is particularly noticeable in achylia gastrica and chronic gastritis. In such cases it would be wise to make several examinations some time after aspiration of stomach is performed, or one could have patient go on a meat-free diet, and examine stool a day or so before, or on the same day the stomach tube is introduced.

It is a fact beyond dispute that in the great majority of gastric and duodenal ulcers macroscopic blood is never seen; while, on the other hand, if persisted in, occult blood will sooner or later be discovered. This constitutes another excellent reason for making routine stool examinations where an ulcerative process is suspected.

It has been recommended in cases where there is apparently a latent ulcer with atypical symptoms which do not show blood to put them upon a purely lacto-vegetarian diet; this, acting as a mechanical irritant to the ulcer, will in all probability cause a certain amount of bleeding if any ulceration be present. Under such a test if absence of occult blood persists we may feel quite sure that no ulceration exists. At times occult blood has been found in acute and chronic appendicitis; in the former it is probably due to ulceration or marked congestion; in the latter case probably due to the last-named cause.

In conclusion, the writer desires to call attention to the fact that he has only discussed two symptoms, and not various methods of digestive investigations. One wishing to arrive at a definite and intelligent conclusion should proceed as follows: A thorough history, general physical examination, fasting stomach-test breakfast, urinary analysis, stool (meat free), and at times Schmidt test diet, digital-rectal examination and X-ray. When necessary, in addition, sigmoidoscopic inspection and Wassermann and tuberculin tests should be applied. Needless to say, even in the subjects discussed it was impossible to consider all exceptions and every detail.

Student's Textbook of Hygiene. By James Wilson, M.D., D.Sc., D.P.H., Bacteriologist to the Counties of Downs and Antrim; Lecturer in Hygiene and Public Health, Queen's University, Dublin. New York: Rebman Company. 1915. Cloth. $2.50 net.

This book deals with infection and immunity, animal parasites, heredity and eugenics, air, soil, water, food, buildings, warming, lighting and ventilation, disposal of excreta, and those other subjects which are abrogated to the specialty of hygiene, in an exceedingly attractive, thorough and scientific manner. Whilst it is not overly full, still it treats the subjects under discussion with a thoroughness sufficient for student purposes. It gives us great pleasure to recommend it to any of our readers contemplating the purchase of a book of its character.

MARYLAND MEDICAL JOURNAL

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BALTIMORE, DECEMBER, 1915

DOCTORS VERSUS FOLKS.

THE laity is so ignorant concerning medical ethics, and for that matter to a large extent even the profession itself, that a clear exposition of the philosophy underlying the creation of our mode of procedure should prove intensely interesting. Abuse and counter abuse of this or that code is of so frequent occurrence that one really wonders what is the matter with the profession. Fortunately, one need not dread the future; things are beginning to adjust themselves to the new order. Medicine has been through a transition, and with it the code underlying our behavior to patient and to each other. And, after all, if one obeys the injunction, "Do unto others as you would have others do unto you," he practically covers the subject of medical ethics, both as it concerns the people and the profession. With the idea in view of helping the physician to a better understanding of the philosophy underlying medical procedure, Doctor Robert T. Morris has written a book with the above-mentioned heading as the title. In it he discusses such subjects as abuse of surgery, advertising, attacking innovators, experts in court, choosing a doctor, quacks and quackery, patent medicines, vegetarianism, fee splitting, Friedman, healers, osteopaths, with such candor, open-mindedness and charity that one cannot read the book without being a better man therefor. Read and be convinced. Osteopaths and Christian Scientists and other sectarians make little provision for the poor as a rule, after their money is gone, although reduction of fee is made. The thousands of impecunious fall back upon the regular profession. In Christian Science if one fails to get well the fault

is his. It is up to the patient. How happy we physicians might be if we could shift responsibility to the patient and keep a clear conscience ourselves meanwhile. Any new fad is taken up largely at first by the neurasthenics, who are extremely susceptible to suggestion and not always amenable to treatment by rational methods. It is a question if osteopathy will ever secure the hold upon our neurasthenic class that was gained by homeopathy, because its methods are more violent. Osteopathy is not for the poor, and it flourishes best where money is most abundant. It first gained foothold in States in which medical laws were lax, but retired from these sections as soon as it gained foothold where better fees could be obtained. Witness the broad-mindedness of Doctor Morris when he states there is a basis of value in all of the fads and cults. The profession has profited to some extent from each and every one of them. But the difference lies herein: Before an innovation is acceptable to the legitimate profession, good, sound, scientific proof must be submitted by the author that his practices have stood the test of fire, not being merely a fanciful notion promulgated over night to catch the dollar of the unwary. As sharp as he is with the faddist, he is equally so with the members of the profession who prove false to their ideals. In speaking of one evil which has crept into existence, fee-splitting, he excoriates the disciples of this practice in this wise: "When two doctors compound with one another to divide a fee without the knowledge of a trusting patient, who thus becomes a victim, we have an example of phylogenetic brigandage, which dates back in race history to the individual robber. Fee-splitting will never be entirely abolished, because there will always be men in the profession who make what is called a gentlemen's agreement in immoral procedure. It is just you and I, they say. It is the 'just you and I' spirit which is at the base of most of the defects in human intercourse." Nowhere do we know of such a book. Every page is reeking with good, solid advice, obtained in the school of hard knocks. Sometimes in his practice Doctor Morris has displayed poor judgment. These occasions he points out with as great gusto as the faults observed in others. He touches upon nearly every aspect of the ethical side of medicine and what, in his judgment, would be the safe line of procedure to follow. Nowhere is such a book to be found; here witty, there sober, here philosophical, there light, withal everywhere laden with the best ideals of the profession.

Correspondence.

INCREASE AND MULTIPLY, RATHER THAN LIMIT OFFSPRING.

Hagerstown, Md., November 12, 1915.

Editor MARYLAND MEDICAL JOURNAL:

Dear Sir—I wish to enter my protest against the sentiment, rule of conduct, or whatever you may be pleased to term it, presented in the editorial, "Limitation of Offspring," appearing in the November issue of the JOURNAL.

Referring to "the introduction into the world of large numbers of children by the hopelessly poor," you say: "His only prospect in life is to serve the upper classes." "In fact, from the day of his birth he is doomed as the chattel of the rich." "From the nature of things he is a detriment to his country." "He goes to recruit the insane asylums, the jails, the penitentiaries and the almshouses." And then, after this pen picture of the horrors awaiting the children of "the hopelessly poor," the question is asked, "Is it not better, then, that people be taught the ordinary means for the prevention of pregnancy rather than bring into the world an army of undesirables, which is of no advantage from a moral, pecuniary or ethical viewpoint to the nation or to themselves?" followed by the declaration that "It should be the aim of the Commonwealth to disseminate any knowledge which teaches limitation of offspring by the prevention of conception rather than to make it a criminal offence."

These suggestions, if carried out, would be not only violative of the moral law and destructive of virtue, but would be "race suicide" on such a gigantic scale that every department of human endeavor would be stilled. What of the edict in Genesis ix, 7: "And you be fruitful and multiply; bring forth abundantly in the earth and multiply therein."

What seer assumes to judge of the future of the child in utero, and where is lodged the right of suggestion or power whereby the "hopelessly poor" are to be deprived of the joy of fatherhood and motherhood?

From the homes of the poor—"the hopelessly poor," if you so choose to phrase it, have come many of the noblest, purest and most useful men and women, whose names are forever linked with the advancement of the race.

Do we sufficiently study the "short and simple annals of the poor?" Do we forget that the Saviour of mankind had nowhere to lay his head? Do we forget that the immortal Lincoln was one of the progeny of the "hopelessly poor" in the cabin of the wilder-

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ness, and that others who are today shaping the industrial and political destinies of America sprang from the loins of the "hopelessly poor"? Do we forget the biographical treasures of our literature, entrancing us with the deeds of American boys and girls who apparently "just grew"? Only today the press records the elevation to the presidency of a great railroad of a man who began his railroad work as water carrier to a gang of track workmen, the product of a "hopelessly poor" parentage. Putnik, the idolized commanding general of the struggling armies of Serbia, began life poor, and poor he has remained. After the Balkan War, in recognition of the immense services he had rendered to his country, a number of wealthy people desired to present him a fortune. He refused. "I thank you," he said. "Your offer has deeply touched me. But what I have done should not have such a recompense. I am poor. I have always been poor, and I will remain poor. I only ask one thing. I have a large family. If ever any one of my children should be in need of help, I hope that in memory of what I have done he will find friendly hands to help him."

But why should a medical journal suggest, much less advocate, "limitation of offspring"? Is it the purpose, the function of a medical journal to present and approve such counsel? Through sexuality and love of offspring the command of Jehovah to "increase and multiply" has been observed. Babies have been coming since the days of Eden; they will continue to come until the end of time from the "hopelessly poor" and all other classes, with the only "limitation of offspring" resulting from inability to procreate, although it is alleged that "modern thought is trending toward fewer but better babies."

J. McP. Scott.

The Pocket Formulary for the Treatment of Diseases in Children. By Ludwig Freyberger, J.P., M.D., Vienna; M.R.C.P., Lond.; M.R.C.S., Eng.; Barrister-at-Law; Toxicologist and Pathologist; Late Hon. Physician St. Pancras and Northern Dispensary; Curator of the Museum, Pathologist and Registrar Great Northern Central Hospital; Clinical Assistant Hospital for Sick Children, Great Ormond street. Fourth, Revised and Enlarged Edition. Adapted to the British Pharmacopeia. With an Appendix on Poisons, Their Symptoms and Treatment. New York: Rebman Company. 1914. Leather, $2 net.

This book well meets its purpose, namely, the presentation in concise form of all the information which is required in the treatment of diseases of childhood by drugs. It gives successively in the drugs mentioned a brief account of their properties, use, therapeutics, incompatibles, dose, correction of their taste, examples of formulae, their antagonists and antidotes. Included is a therapeutic index, which contains, in alphabetical order, the names of the more common disorders of childhood and of the drugs which are best suited for their treatment. It is no more nor less than it claims to be—a formulary—but as such is of the highest type. Those desiring a book of this type will not be disappointed in the above-mentioned volume.

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Abstracts.

AUTHOR'S ABSTRACT OF AN ARTICLE ENTITLED "A CLINICAL REPORT ON THE RELATIVE VALUE OF TURTLE TUBERCULIN IN THE TREATMENT OF TUBERCULOSIS."*

All the precautionary measures devised by science in late years for checking the advance of tuberculosis, including sanitation, out-of-doors living, hygienic legislation and the like, have failed to arrest the development of the disease. The annual death toll of tuberculosis reaches the awful figure of two hundred thousand in this country alone, and throughout the world this disease claims one human life every two minutes and a half.

Robert Koch's revolutionizing discovery of the tubercle bacilli has put science upon the right track, and since then great progress has been made. Thanks to the research work by Professor Piorkowski of Berlin, a specific curative and immunizing agent—his turtle tuberculin—as indicated by the collective experience of Dr. Beattie and Dr. Myers, bids fair to herald a new era in the specific treatment of consumption.

Piorkowski believes that an intravenous injection of his turtle tuberculin combines with the receptors of Koch's side-chain theory, and forms an antitoxin similar to Jenner's vaccine for smallpox, and far superior in curative properties to that formed by injections of living human tubercle baccilli which admittedly attained a certain result, albeit an inadequate one.

In response to many inquiries since the appearance of the first article on Piorkowski's turtle tuberculin in the *New York Medical Journal* of September 13, 1913, on the "Relative Value of Turtle Tuberculin in the Treatment of Tuberculosis," the following specific results may be recorded in four of the cases treated:

Case XV. An inspector in the Custom-house service of the United States Government, 32 years of age, diagnosticated by several competent physicians as presenting all the physical signs and symptoms of tuberculosis of the lungs, having been ill since about September, 1909, and having fallen off from 175 pounds to 105 pounds, and becoming too weak to hold his knife and fork in his hand, responded in less than four months to the Piorkowski turtle tuberculin treatment, increasing in weight to 159½ pounds, losing his cough, his pains in the chest and other symptoms, and repeated examinations have failed to discover a single symptom of the disease from which he had been suffering for more than three years. Repeated bacteriological examinations by the New York Board of Health have not disclosed any trace of the presence of tuberculosis. Therefore this case may be considered a specific cure.

Case XXI. A white girl, aged 7 years, suffering from tuberculosis of the knee joint for over two years, responded to the Piorkowski treatment in a period of less than four months, to the extent of increasing the motion of the affected joint 50 per cent. The treatment resulted in great general improvement, in-

*From the New York *Medical Journal* of October 25, by Dr. Edward E. Myers, 418 Central Park West, New York City.

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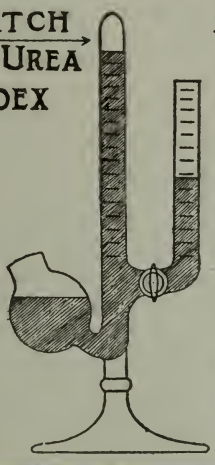

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cluding the reduction of one-half inch of the swelling of the knee joint and a gain of over 6 pounds in weight.

Case XXVII. A white girl, aged 19 years, suffering from tubercular glands of the neck since 1909, responded to less than four months' treatment with Piorkowski's turtle tuberculin by a gain of 8 pounds, an increase of appetite and a marked improvement in general condition. Only a few small glands remained, with no discharging sinus, where formerly had been a large, irregular mass of glands with a discharging sinus.

Case XLIV. This case of a man, aged 44 years, is cited more particularly to bring out laryngeal tuberculosis than a condition of the lungs. The patient had been hoarse for some months and treatment extending to a little over one month gradually eliminated the hoarseness, signs were practically absent in the larynx and there was improvement in the cough, expectoration and color of suptum. The patient retained his weight, although the tuberculous condition was complicated with a severe form of diabetes. One month of treatment resulted in an improvement greater than that attained during the previous eight months under other forms of treatment.

SPURIOUS AND GENUINE TREATMENT OF PSYCHO-NEUROSIS, ILLUSTRATED BY CASES.

By Tom A. Williams, M.B., C.M. (Edin.),

Washington, D. C.,

Corres. Mem. Soc. Neur. and Psychol., Paris, etc.; Neurologist to Epiphany Hospital, Washington.

THE *Illinois Medical Journal,* October, 1914:

What is familiarly known as the influence of the mind over the body needs no illustration nowadays, and a historical retrospect would only burden an attention likely to be strained by what is already involved. An understanding of how disturbances, apparently physical, are easily influenced by means we call mental, is clouded in errors most detrimental to the understanding of not only what we call individual disease, but of the behavior of relationship of human beings in general.

My first endeavor is to expose the fundamental fallacies and dangerous implications imminent in the practice of these persons or sects who pride themselves upon being non-medical. But readers may take no pride that they are not as these, for my second endeavor has been to show that, for the most part, the mental healing of many medical men is not only less efficacious, but more unscientific than that of mental healers themselves. I have made no explicit demonstration of this latter contention, for it is so apparent among the facts related that even he who runs may read. My third endeavor is to convey an inkling at least of the principles of the methods which should be used against certain functional nervous disorders.

In the therapeutic results of the kind I describe are by loose thinkers attributed either to suggestion, to faith, or to confidence in the physician, and it cannot be stated too strongly that neither of these factors is the true one in any of the cases with which I have to do.

Were confidence the important element I should not succeed where the family physician had failed; for while in him the pa-

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tients usually put a trust almost blind, to me most of them have come almost sceptically. Confidence, of course, has to be gained; but neither apparatus nor manner is of an imposing character in my consulting-room; that confidence comes only as a result of the patient's appreciation that an understanding of the situation is being developed.

As to suggestion, I take the greatest pains to avoid fallacious short cuts to the removal of symptoms, of which I seek to reach a foundation by giving the patient a rational understanding. When this is done the patient needs no moral support from the physician nor anyone else; for having learned his own psychology he knows how to direct himself. Hence, when the cure is complete, relapses do not occur.

1705 N street.

THE TREATMENT OF MALARIAL PERNICIOUS FEVER.

By L. Sexton, M.D., B.S.,
New Orleans, La.

Malarial hematuric fever improperly treated has a mortality of 30 per cent. In the hematuric variety the plasmodium seems to remain in the more central organs, or at least they are not usually found in the peripheral blood during the paroxysm, though they may be demonstrated in the blood during the intermission. Some special form of protozoan not yet discovered or susceptible to staining may be the cause of this type of fever, or the hemorrhage may result from the broken down condition of the blood vessels and renal epithelium.

To dilute the toxins and promote elimination is the great end to be accomplished. The hemorrhage comes from the capillaries of the glomeruli and uriniferous tubules of the kidney. The coagulated blood in the tubules soon stops the secretory function of the kidney, unless it is kept liquefied and moving. For this purpose it becomes necessary for the patient to take all the mildly diuretic water he can; if rejected, it will often be retained better if taken as hot as can be borne. When rejected by mouth it must be gotten into the system either by the rectum, Murphy drip, or enemas forcibly retained by pressure upon the anus, or by hypodermoclysis in which large amounts of just sterile water is slowly injected under the skin into the loose areolar tissue.

QUININE AND HEMATURIA.

Koch claims that quinine produces this sympton of hermaturia, but it occurs in numerous cases that have not taken quinine, so quinine cannot be the only cause. If it is dependant upon the toxines caused by the malarial plasmodium of the asexual type, the indication would certainly be to cinchonize the patient, for quinine is the only specific known for the plasmodium of the asexual type. The cases we have cured were given quinine (strong solution rubbed into the skin), also small doses by rectum, but the mouth is the best way to take the quinine if not vomited.

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capsule) has been strongly recommended by physicians practicing in the Mississippi Delta to cure or prevent hematuria.

Quinine, therefore, should only be given to such cases as are clinically or microscopically known to be of purely asexual malarial origin. Twenty-grain doses daily will do no great damage to the kidney in two or three days, while it will certainly destroy the asexual types of the malaria if they are found in the blood at the beginning of the attack.

In the algid type of the fever bring about reaction by warming the patient as soon as possible. All draughts of air should be kept from the body, while keeping the patient's room filled with fresh air all the time. One-hundredth-grain doses of atropine with one-fiftieth grain strychnia hypodermically, if the chill stage is prolonged or severe, bring the blood from the internal congested orgains to the surface. The body should be wrapped in warm blankets, reinforced by hot bottles, until the cold stage has passed away. The temperature is often 104 degrees F., although the patient is complaining of severe chill and feeling cold. The reaction from the chill often results in fever from 104 degrees F. to 106 degrees F., which is best treated with five grains phenacetine in tablet, ice to the back and front of head, cold sponging with alcohol and water, or cold toweling until the fever is reduced.

Vomiting, if persistent, is best controlled by large glassfuls of hot water, which, if not retained, at least wash out the bile which has regurgitated into the stomach. One-eighth grain cocain (gelatin or sugar-coated pill, to insure solution on gastric mucosa) also stops nausea, provided the bilious material has been first washed out of the stomach. Crushed ice to the throat and mustard to the stomach is also used to advantage at the same time.

It is useless to give bitter solutions of quinine or other drugs to such cases, and capsules are very often thrown up from these irritable stomaches before they are dissolved. In all such cases, particularly with children, a twenty-five per cent. acid solution of quinine can be made with hot water, glycerine or lanolin, and rubbed into the skin, or a dilute quinine solution (20 grains) may be injected into the rectum. If this fails to cinchonize the patient, ten-grain doses of bisulphate may be injected deep into the muscular tissue, or fifteen grains of the muriate intravenously; this only as a last resort, as these injections are usually followed by violent reaction or abscess. Suitable ampules, from 7 to 15 grains of bisulphate of quinine, are less liable to produce these reactions.

To successfully treat hemoglobinuric fever, cardiac weakness is to be overcome, and the secretion of the urine to be kept up. Citrate of caffein and strychnia spur the flagging heart; large draughts of fluids tend to flush the kidney.

No patient who is subject to this trouble should allow his body to become suddenly chilled. Violent exercise should be tabooed; wet clothing should not be allowed to dry on the patient's body; indigestible meals should not be eaten; the bowels should be made to act free daily. Sudden changes to cold climates should be avoided, though moving to a non-malarial climate should be encouraged. Patients should not be allowed to become chilled at night on account of insufficient covering when temperature falls. Such subject should be allowed the least

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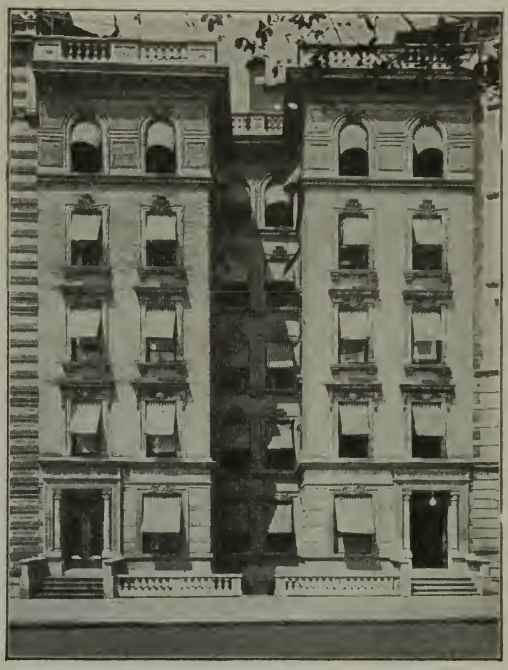

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amount of physical exercise compatible with good health. While the body is kept warm with flannel, the patient should remain in an open room all the time. At the beginning of a chill, hot foot baths, packs and enemas should be given, while given large amounts of carbonated waters or ordinary water if these are not obtainable. Rest in bed for some time with warm covering before the expected chill. Any mild diuretic mineral water or medicine that does not increase the nausea may be administered. Crushed ice by mouth and to the throat, with counterirritants over the stomach occasionally allays the vomiting. Ten to twenty drops of chloroform in acacia and simple elixir half hour apart have relieved the nausea in some cases. Two and a half grains each of calomel and soda followed in six hours by Seidlitz or citrate magnesia is a fine preliminary treatment to the expected attack. Strychnia (one-thirtieth grain, sugar or gelatin-coated pills, or by needle if not retained by stomach) is the best cardiac stimulant. Coffee as a Murphy drip is a diuretic heart stimulant.

If the asexual type of plasmodia are found in the blood, five-grain doses of quinine three times daily for 72 hours will surely eliminate them; if the crescent forms alone are found, quinine will do no good, but may do harm if given in large doses.

The consensus of opinion is that quinine given at random in large doses, without regard to presence or kind of organism, does more harm than good. It should also be remembered that many of these mild cases tend to recovery anyway, and that a much-lauded treatment, at times, is given credit for what Nature really accomplished unaided.

Hematuric cases should be confined to bed and rested, fed on low-proteid and digestible food, with all the elimination possible, removing the case to a non-malarial surrounding as soon as it is safe to do so. Ten to fifteen grains of quinine every eight hours two or three days, alternated with Warburg's tincture if it can be retained, is sufficient in the ways of quinine treatment, which is always indicated if the parasite is not crescent in form. Five grains phenacetin, cold sponging and toweling for hyperpyrexia, caffein, camphor oil and strychnia by needle for weak heart are the general methods in use in most malarial sections.

The algid form requires immersion into hot water or wrapping in hot blankets and bottles, and filling the patient with hot drinks, enemas or intravenous infusion; champagne or brandy, iced, may be required as a stimulant only in the algid form.

The battle for and against quinine is still raging in the Southern States medical societies. Quinine is the only proven specific we know of for asexual type of malaria, and I would neglect to use antitoxin in diphtheria rather than quinine by the skin, rectum or hypodermically if it should be ejected by mouth or not absorbed by the stomach in such cases.

Remember to dilute well any quinine that has to be given hypodermically; 1-100 and 1-50 solution has produced death. Sterile glass ampules containing the proper dose, 10 grains to 100 cc., will reduce the risk of abscess and necrosis when given in this way. A large all-glass syringe capable of holding 12 to 20 cc. should be preferred to the small hypodermic, which is hardly suited to this kind of work. Quinine should not be used hypodermically or intravenously until all other methods at cinchonization have failed.—*The Medical Council.*

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This fraud, which was exposed at an action tried before the Supreme Court of Victoria at Melbourne, and others reported before in the medical literature, show that every physician should see that his patient gets exactly what he prescribed. No "just as good" allowed.

The Scientific Treatment of Abdominal Ptosis.

THE importance of abdominal support is being appreciated today as never before. A relaxed and sagging abdominal wall is no longer considered a harmless sequence of advancing years, a simple sign of over-indulgence and lack of proper exercise. To the contrary, it is known to be a real pathologic condition attended by actual tissue changes and derangements of the local circulation that have a far-reaching influence on the whole body. More than this, the effect on the nerves, those of the splanchnic area particularly, is such that a host of reflex ills may be expected sooner or later.

Fortunately, intelligent study of abdominal support has shown ways of successfully counteracting the effects of weakening of the abdominal muscles, and in this connection due recognition must be given to the work of Dr. Katherine L. Storm of Philadelphia. Dr. Storm was a pioneer in the scientific investigation of weakened and relaxed abdominal muscles, and the consequences therefrom. Dr. Storm's Abdominal Binder was the logical outcome of these studies and the way the profession have adopted this binder points conclusively to the prompt appreciation of its practical utility. Abdominal belts and supports have been devised in endless array, but until the Storm

Binder became available, constriction and compression were usually mistaken for true upward support. As a result, the average abdominal belt was not only an instrument of torment, but nearly, if not quite, valueless for purposes for which it was intended. With the Storm Binder all these evils have been corrected, and instead of mere compression there is afforded a true uplift, with the lines of support upward and backward, as they should be. Thus the Storm Binder easily performs the service required of it, and so comfortably at all times that the wearer, after a few hours, becomes unconscious of its presence. So efficient and uniformly beneficial has it proven that it has placed the treatment of abdominal sagging or ptosis on a new and scientific foundation. The Storm Binder, therefore, deserves the hearty support of medical men, since it represents progress in a needed direction and assures the proper and comfortable attainment of the results sought.

Winter Coughs and Colds.

THE severe and often intractable coughs of winter colds too often owe their continuance to systemic weakness. To relieve and overcome them it is essential to raise the vitality and nutrition of the whole body. For this purpose there is no remedy so prompt and reliable in its effects as Gray's Glycerine Tonic Comp. and its easily proven efficiency in affections of the respiratory tract—chronic bronchitis, incipient tuberculosis, asthma, laryngitis and catarrhal diseases in general—readily accounts for its widespread use by the profession in this class of ailments.

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The Recovery from La Grippe.

SINCE the first appearance upon our shores of that unwelcome infectious disease known as la grippe the medical journals have been filled with articles advocating different methods of treating the attack itself and its various complications. But little attention, however, has been paid to the important question of how to best treat the convalescent subject. Among all of the acute infections there is probably none that is as likely to leave the patient quite as thoroughly devitalized and generally prostrated as does a sharp attack of la grippe. For some reason the degree of prostration from grippal infection appears to be entirely out of proportion to the severity of the attack itself. This peculiarity renders it advisable and usually necessary to strengthen and support the general vitality of the patient during the period of convalescence. Complete rest, nourishing food, plenty of fresh air and stimulation according to indications are, of course, distinctly important measures. At the same time tonic and hematinic medication should not be neglected. Probably the most generally acceptable and efficient general tonic and hemic reconstituent for such patients is Pepto-Mangan (Gude), a bland, non-irritant and promptly absorbable combination of the organic peptonates of iron and manganese. This efficient blood-builder and reconstructive does not disturb digestion nor induce constipation, and is readily taken by patients of all ages.

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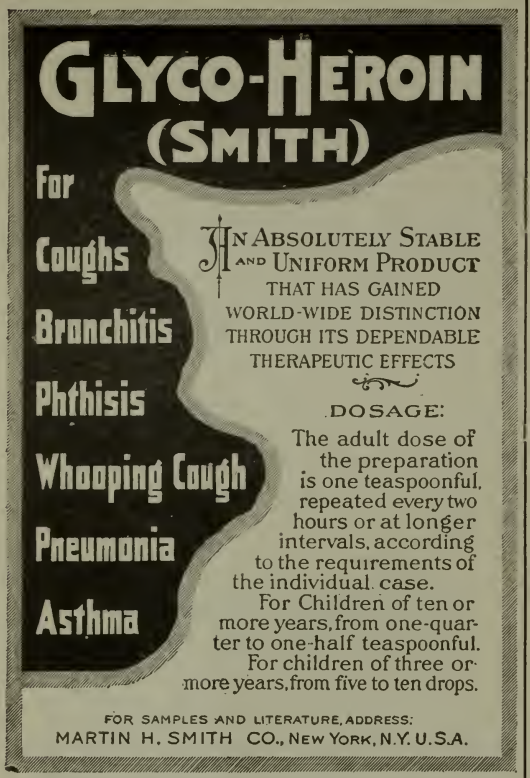
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donna to inhibit the secretions. On the contrary, it stimulates the flow of secretions and normalizes peristalsis. It is, in fact, a normal cathartic.

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Russian Oil, P., D. & Co., is a hydrocarbon oil distilled from Russian petroleum, generally known in Europe as paraffin oil. It is tasteless, colorless, odorless, and is guaranteed to be free from sulphur compounds, acids, alkalies and all harmful by-products. Particular stress is laid upon the high specific gravity of Russian Oil, P., D. & Co., and its resultant high viscosity and great lubricating power. The product is not a laxative in the sense of stimulating the bowel by local irritation, its function being rather that of an intestinal lubricant. It passes in toto through the alimentary tract, mingling with the food in the stomach and upper digestive tract, with the result that the feces become thoroughly lubricated and pass through the lower bowel more rapidly and are expelled from the colon promptly and easily. Not the least valuable feature of the product is its protective effect on the stomach and intestine, it being well known that abrasions or irritations of the

mucous surfaces permit bacterial infection and general toxemia. If desired, the oil may be taken with a pinch of salt or a dash of lemon juice, or it may be floated on a glass of water, wine, milk of other beverage. The dose recommended for adults is two to three tablespoonfuls, morning and night, for the first two or three days. Later the amount may be diminished. Parke, Davis & Co. supply Russian Oil, Aromatic, and Russian Oil, Unflavored. Physicians, when prescribing, should indicate which product is wanted.

Agar, the other preparation referred to, is a Japanese gelatin derived from seaweeds. It is supplied commercially in dry, transparent pieces that are reduced to coarse flakes for medicinal use. It freely absorbs water and retains it. It has the additional property of resisting the action of the intestinal bacteria, and of the digestive enzymes as well. Its chief use in medicine is in the treatment of chronic constipation. Experiments have shown that when Agar is eaten as or with a food, it passes practically unchanged into the intestine, where it permeates the feces, and, by keeping them uniformly moist, aids peristalsis. Hard and dry fecal masses are reduced to a softer consistency, normal evacuation resulting as a consequence. One or two heaping tablespoonfuls, according to individual requirements, may be taken once a day, preferably in the morning. It may be eaten with milk or cream, or mixed with any cereal breakfast food, with the addition of salt or sugar, to make it palatable.

A Systemic Boost.

It is safe to say that the average physician is called upon to prescribe a tonic more frequently than any one other form of medication, unless it be a cathartic. Patients who are patients solely because they are tired, "run down" and generally debilitated, are constant visitors at the physician's office. Such individuals need something that will boost them up to their normal point of resistance and then hold them there; in other words, not a mere temporary stimulation, with secondary depression, but a permanent help to the revitalization of the blood and a general reconstruction. Pepto-Mangan (Gude) is not only prompt in action as an encourager of appetite and better spirits, but is also distinctly efficient as a blood builder and systemic reconstituent. It is pleasant, non-irritant, free from constipating effect and does not stain the teeth. It is thus a general constitutional tonic of positive service in all conditions of general devitalization.

Sexual Neuroses.

Whilst it is true that in many instances a definitely existing lesion somewhere along the genito-urinary tract is the underlying cause of that distressing condition popularly described as sexual neurasthenia, yet in certain cases it is impossible of detection, or if detected its effects are too firmly fixed to make an immediately favorable response to the local treatment instituted. Wherefore the need for a soothing agent, such as Bromidia (Battle), becomes necessary. In cases of this character with marked nervous involvement, Bromidia (Battle) is of the greatest service. It soothes the sexual irritability and enables the patient to rest and sleep well.

Hippocrates, nearly 2400 years ago, gave honey and vinegar for colds, burnt alum for ulcers, gall to stop hemorrhage; he gave emetics and purges, applied dry heat by means of bran, gave hot and cold douches as well as injections of hot water for colic, and baths and a decoction of barley in fevers.—*When Did It Happen? Published by Reed & Carnrick.*

"Whatever be the nature of rheumatism and gout, every practical physician realizes that they are amenable to treatment, and that it is a matter of as much importance to open the doors by which the poison goes out as to close those doors by which it comes in. Hence prompt and thorough elimination must be obtained through the liver, the kidneys, the bowels and the skin."

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Edna Earle, of the nursing staff of the Maryland General Hospital, to Thomas Gemmill, at the Presbyterian church, Ellicott City, Md., November 21, 1914.

Thomas Brooks, M.D., University of Maryland Medical School, 1910, to Miss Dolores Maria Mason, both of Santiago, Cuba, at Santiago, December 9, 1914.

Nathan P. Sears, M.D., Johns Hopkins Medical School, 1912, of Syracuse, N. Y., to Miss Emily C. Rivers of Baltimore, Md., at Baltimore, January 4, 1915. Dr. Sears is connected with the Lakeside Hospital, Cleveland, Ohio.

BIRTHS.

Recently, to William E. McClanahan, M.D., University of Maryland Medical School, 1902, and Mrs. McClanahan, of 1619 S. Clinton street, Baltimore, Md., a daughter, Marjorie Mercedes.

DEATHS.

Thomas Henry Moore, M.D., Maryland Medical College, Baltimore, 1912, died at his home in Wiliimansett, Mass., October 21, 1914, aged 26 years.

John J. Chambers, M.D., College of Physicians and Surgeons, 1884, formerly of Portland, Ore., but for 14 years a practitioner of Nome, Alaska, died in the Morningside Sanitarium, Portland, Ore., December 5, 1914, aged 55 years.

Edward W. Myers, M.D., University of Maryland, 1862, a pioneer practitioner of Leavenworth, Kans., died at his home in Kansas City, Mo., December 14, 1914, aged 77 years.

Thomas Wilfred Flood, M.D., Baltimore University School of Medicine, 1902, died at his home in Haverhill, Mass., December 16, 1914, from typhoid fever, aged 31 years.

Clinton Wagner, M.D., University of Maryland, 1859; surgeon-in-chief of the Second Divison of the Fifth Army Corps of the Army of the Potomac; prime mover in the establishment of several military hospitals, including the first floating hospital on Western waters; founder of the New York Laryngological Society and instrumental in the founding of the American Laryngological Society; inventor of many surgical instruments and author of voluminous literature relating to his specialty; died in Geneva, Switzerland, November 25, 1914, aged 77 years.

Mosheim S. Burgess, M.D., Maryland Medical College, 1907, formerly of Medford, Ore., died in his office in Wayne, W. Va., November 24, 1914, from the effects of a gunshot wound of the head, self-inflicted, aged 34 years.

William Ernest Walker, M.D., Baltimore College of Dental Surgery, 1889; University Medical College, Richmond, Va., 1900; an Associate Fellow of the American Medical Association and a prominent dentist and oral surgeon of New Orleans, died in the Hotel Dieu in that city, November 21, 1914, aged 46 years.

Charles W. Shreve, M.D., University of Maryland, 1858, for many years a practitioner of Dickerson, Md., died at the home of his son in Washington, D. C., November 24, 1914, from the effects of a fracture of the hip three months before, aged 80 years.

J. M. Sheppard, M.D., Baltimore Medical College, 1894, a member of the West Virginia Medical Association, was found frozen to death near his home at Falls Mills, Va., November 21, 1914.

Ralph H. Augur, M.D., Baltimore Medical College, 1909, a post-graduate worker in Johns Hopkins Hospital, was found dead in his office in Baltimore, November 27, 1914, aged 32 years.

John T. Digges, M.D., for many years one of the best-known physicans in Southern Maryland, died at his home near La Plata, Md., January 14, 1915, aged 73 years.

John Cronmiller, M.D., University of Maryland, 1857, of Laurel, Md., died January 1, 1915, at the University Hospital, Baltimore, after an illness of several weeks, aged 82 years.

Ralph Walsh, M.D., one of the best-known physicians of Washington, died at his home, the Mound, in Harford county, Md., January 15, 1915, after a lingering illness, aged 73 years.

Algernon Gray Smith, M.D., Physicians and Surgeons, '72, of Midland, Md., died at the home of his son in Cumberland, Md., January 11, 1915, from paralysis, aged 64 years.

William G. Wilson, M.D., University of Maryland, '52, of Shelbyville, Ill., died at his home in that city January 16, 1915, aged 87 years. Dr. Wilson had not been in active practice for some years.

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Medical Review of Reviews.

THE history of mankind from the earliest dawn to the present day has been one long, incessant struggle against slavery, either actual bodily slavery, or spiritual and mental slavery. Centuries and centuries of struggle, in which millions of people lost their lives, were waged against tribal slavery, feudal slavery, oligarchical and monarchial slavery, and last but not least chattel slavery; and finally humanity has reached a semblance of liberty. There is one kind of slavery, however, that still holds its victims in an iron clutch as relentlessly and as mercilessly as ever before. In fact, on account of various factors in our civilization, that kind of slavery is more firmly entrenched than it was ever before; nay, its victims have of late years been increasing at an alarming rate.

We are referring, of course, to the slavery of the drug and alcohol habit. And the victims of the drug habit have up to very recently been the most pitiful of human beings, for the broad-minded and unbiased physician—and to him alone this article is addressed—will frankly admit that up to a few years ago there was practically no scientific treatment of the alcohol habit, the opium and morphine habit, and the cocaine habit. The private physician stood helpless before these cases, while the numerous sanatoria that flourished—the less said about them the better. A few of them conscientiously tried to help the patient, but their methods were crude and unscientific and—what is more important—inefficient. Most of them, however, were cold-blooded money-making affairs, whose sole purpose was to bleed the patient, and they bled him to the last farthing, and he was then sent away, often in a worse condition than when he entered. Very few patients improved in those sanitaria, and even the improvement was a temporary one, necessitating the patients' returning again and again, while many sank lower and lower, not a few ending their career in a suicide's grave.

This black, somber picture received a brighter, rosier hue when, a few years ago, Mr. Chas. B. Towns, a layman, gave to the medical profession, gratuitously, and without any expectation of reward, his treatment for alcoholism and the drug habit. This treatment received the unqualified endorsement of our foremost physicians and was fully explained (see below) by Prof. Alexander Lambert in *The Journal of the American Medical Association,* and by Prof. Richard C. Cabot in the Boston *Medical and Surgical Journal.*

* * * * * * *

"Five years ago Mr. Charles B. Towns of New York city informed me that he had a treatment by the use of which it was possible in about three days to remove the craving for morphine and cocaine and also for alcohol. After this desire for the narcotics was gone the patient would be able to remain free from the use of morphine, and if it was worth while to the patient it was possible for him to abstain from the use of cocaine and alcohol. Mr. Towns, not being a physician, was not bound to tell me the ingredients of this treatment. I begged him to publish it and to put it on an ethical basis, as otherwise I could not use it, but at that time it did not seem expedient for him to do so. Recently

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he has made the treatment known in all its details to the Opium Congress at Shanghai, and on his return from China he has given me the full details of the treatment, and I have been using it in Bellevue Hospital during the last two months.

"While the treatment was still unknown to me, and before I used it, I watched Mr. Towns treat various patients addicted to morphine, cocaine and alcohol, and found that the claims he made for the treatment were true. I have, therefore, watched patients who ceased the use of their drug five years ago and have not returned to it, and recently I have myself carried out the treatment indicated below."

Another article on the same subject by the same author appeared in the same journal for February 18, 1911, and still another in the same publication for June 21, 1913. The last-named article contains the latest development of the treatment, which we will, for the benefit of the profession, reproduce here. One of the essential factors of the treatment is a mixture of belladonna, xanthoxylum and hyoscyamus which has the following composition:

		Gm. or c.c.
℞	Tincture belladonnæ.....	62 ℥ij
	Fluidextracti xanthoxyli.....	
	Fluid extractihyoscyami..... aa	31 ℥j

In making the mixture of belladonna, hyoscyamus and xanthoxylum, a 15 per cent. tincture of the belladonna must be used, or an equivalent amount administered if a weaker tincture of belladonna is used. If this is not done the craving for the drug often remains as a nagging longing, and the obliteration of the craving is incomplete. It is also the author's personal experience that unless the mixture is pushed to the beginning physiologic tolerance of the belladonna, as shown by dry throat, dilated pupils or even a flushing and a rash, or the beginning incisive voice of the commencing belladonna hallucinations, though the last named is to be avoided if possible, the desired results are not obtained. The converse is true that the desired results are obtained even if only one, two or three drops of this belladonna mixture can be tolerated by the patient every hour. It is further essential that this belladonna mixture should be given persistently in small doses, and not by the teaspoonful, three times a day.

It is also absolutely essential that the morphine patient before starting in the treatment should have a thorough cathartic action before the belladonna treatment is begun. At this time an enema is not sufficient, and unless such cathartic action has been obtained, patients are very sure later to be troubled with persistent vomiting. Further, though not essential, it is wiser to give three-fourths of the total twenty-four-hour dose instead of two-thirds as the initial dose of morphine. The patients thus go through their first two periods without any distress, and they do not begin to have the symptoms of discomfort until the third dose of morphine begins to wear off. If but little morphine is given in the beginning dose, and one halves it at the second dose and halves it again at the third dose, owing to the insufficiency in the beginning,

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Constipation of Infants

may often be readily traced to imperfect digestion of protein or fat, to a deficiency of total solids in the diet, to a lack of energy, or to a diet containing starchy substances. While this condition is not necessarily a serious one, a natural elimination with soft, smooth stools of a good character is much to be desired, and has no little bearing on the general health of the infant.

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NOTARY PUBLIC

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PROFESSIONAL BUILDING

the patient is not really comfortable at any time and has a nagging desire for more.

The detailed treatment for morphinism is given by Dr. Lambert as follows, and we give it here in his own words:

A patient addicted to morphine is given five compound cathartic pills and five grains of blue mass, and six hours later, if these have not acted, they are followed by a saline; after three or four abundant movements of the bowels from these cathartics the patient is given, in his habitual way, by mouth or by hypodermic, in three divided doses at half-hour intervals, two-thirds or three-fourths of the total daily twenty-four-hour dose of morphine or opium to which he has been accustomed. The physician should observe carefully after the second dose has been given as the amount then equals either four-ninths or one-half the total twenty-four-hour dose. A few patients cannot comfortably take more than this amount. Six drops of the belladonna mixture are given in capsules at the same time as the morphine. This belladonna mixture in doses of six drops (and by drops I do not mean minims; I mean drops dropped from an ordinary medicine dropper, which is about half a minim dose) is given every hour for six hours. At the end of six hours the dosage is increased two drops. The belladonna mixture is continued every hour of the day and every hour of the night continuously throughout the treatment, increasing two drops every six hours, until sixteen drops are taken, when it is continued at this dosage; it is diminished or discontinued at any time if the patient shows belladonna symptoms, such as dilated pupils, dry throat or redness of the skin, or the peculiar and incisive and insistent voice, and insistence on one or two ideas. It is begun again at reduced dosage after these symptoms have subsided. If the patient has an unusual sensitiveness to belladonna it will usually show itself in the first six or eight hours, and the hourly dosage can be cut down to from two to four drops and raised by one drop every six hours. If, on the other hand, even sixteen drops persisted in for twelve consecutive hours do not give dryness of the throat, the dosage should be raised to eighteen or twenty every hour until the dryness occurs and then the amount reduced.

At the tenth hour after the initial dose of morphine is given the patient is again given five compound cathartic pills and five grains of blue mass. These should act in six or eight hours after they have been taken. If they do not act at this time, some vigorous saline is given, and when they have acted thoroughly the second dose of morphine is given, which is usually about the eighteenth hour. This should be one-half the original dose, that is, one-third or three-eighths of the original twenty-four-hour daily dose. The belladonna mixture is still continued, and ten hours after the second dose of morphine has been given, that is, about the twenty-eighth hour, five compound cathartic pills are again given and five grains of blue mass, these again, if necessary, followed by a saline seven or eight hours later. After these have thoroughly acted at about the thirty-sixth hour, the third dose of morphine is given, which is one-sixth or three-sixteenths of the original dose. This is usually the last dose of morphine that is necessary. Again, ten hours after the third dose of morphine, that is, the forty-sixth hour, the five compound cathartic pills and five grains of blue mass are again given, followed seven or eight hours afterward by a saline, and one expects at this time to see the billious green stool

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appear. When this appears, after the bowels have moved thoroughly, about eighteen hours after the third dose of morphine, about the fifty-sixth hour of treatment, two ounces of castor oil are given to clear out thoroughly the intestinal tract. Sometimes it is necessary to continue the belladonna mixture over one or two more cathartic periods before giving the oil. During this last period when the bowels are moving from the compound cathartic pills and before the oil is given, the patients have their most uncomfortable time. Their nervousness and discomfort can be controlled usually by codein, which can be given hypodermically in five-grain doses, and repeated if necessary, or some form of the valerianates may help them. About the thirtieth hour of treatment these patients should be stimulated with strychnin or digitalis, or both, every four to six hours.

Some patients cannot tolerate codein and break out into an urticarial rash or a fine red punctuate rash or swelling and burning of the skin. In these patients relief can be obtained by dionin, which seems about twice as strong as codein in its power to relieve nervousness and the feeling of distress. It should be given, therefore, in doses of about two or three grains or less. Codein or dionin should be cut off as soon as possible after the castor oil has acted. It may be given during the next succeeding twenty-four hours if necessary, but if patients are for any reason taking codein for forty-eight hours after they are through their treatment, they will usually persist in doing so, and must be broken from this narcotic or they will from this return quickly to their morphine or heroin.

The withdrawal pains or pain in the joints and aching in the bones and muscles can sometimes be relieved by hypodermics of some form of ergot and strychnin, sometimes by massage, sometimes by sodium salicylate, sometimes by a salicylic compound combined with some of the coal-tar products, such as antipyrin, phenacetin or pyramidon; they can always be eased up by codein or dionin. The addition of codein to these coal-tar products increases their analgesic effect. These patients have been in the habit of referring all their discomfort and distress to the lack of morphine and have consequently drifted into the habit of referring everything to the lack of it. For two or three days after they are off their drug any indiscretion in eating, or any attempt at too much physical exertion, will bring a recurrence of their withdrawal symptoms. This is simply due to exhaustion or to indigestion, and if treated as such quickly disappears without any narcotic. Insomnia is often a troublesome symptom after the patients are off their drug. This may have to be treated in some patients with doses of bromids, in others by chloral or by other various hypnotics. Veronal has, in my hands, given so much depression and produced so many bad after-effects that it should be avoided. The best hypnotic is muscular fatigue, and these patients should begin to exercise regularly and be built up physically as soon as their condition permits. Usually this is within a week after they are off their drug.

(Continued in March Number.)

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Editorial Comment.

THE ETIOLOGY OF PELLAGRA

"Although pellagra has been known and studied for nearly two centuries," says *The Journal of the American Medical Association* in its issue of September 26, "not only is its essential cause unknown, but the broad question whether it is to be classed as a dietary or a communicable (contagious or infectious) disease has never been definitely determined. The spoiled-maize theory has for many years been the favored theory abroad, but its correctness has, for various reasons, been questioned by many. In this country there has arisen, both in the lay and in the medical mind, the opinion that pellagra is to be classed among the infectious diseases. This view has received important support, first, from the Illinois Pellagra Commission and, more recently, from the Thompson-McFadden Commission (Siler, Garrison and MacNeal). *The Journal* calls attention to a recent issue of the United States Public Health Reports, in which Goldberger gives a summary of certain work now being done by the United States Public Health Service on the study of pellagra, and advances some most suggestive facts which do not in any way support the infection theory, but strongly point to the belief that pellagra is a disease essentially of dietary origin; that it is brought about in some such way as, for example, by the absence from the diet of essential "vitamins," or possibly, as is suggested by work of Myers and Voegtlin, on the presence in vegetable foods of excessive amounts of a substance such as soluble aluminum salts.

PUBLIC HEALTH IN INDIANA

The Journal of the American Medical Association for September 26, editorially compliments health administration in Indiana, which it states for a long time past has been vigorous and energetic. "It has also been unique, peculiarly up-to-date and popular in its methods of attracting attention and affording instruction," says *The Journal*. "The latest activity of the health forces of the State is thoroughly characteristic. Governor Ralston issued a proclamation designating Friday, Oct. 2, 1914, as Disease Prevention Day. He urged the cities and towns throughout the State to make special arrangements for appropriate exercises, emphasizing the importance of public health, and the joint responsibility of all citizens therefor in order to inspire in them a desire to co-operate in all sane efforts for the prevention of physical diseases. The State Board of Health prepared a special bulletin containing a copy of the Governor's proclamation and suggestions for the celebration of Disease Prevention Day in towns of Indiana. Some of these suggestions are terse and apt and deserve to be circulated.

"Get up a public-health procession. In cities the mayor should head the procession; in towns the town board of trustees, the town board of health under the law, should lead. There should be a brass band; drums and trumpets should be used; music is necessary for a procession; school girls dressed in white bearing banners with health mottoes, boys in white or otherwise neatly dressed carrying banners with health mottoes. Where there are high schools, the pupils should try to present some original idea representing the importance of disease prevention.

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This fraud, which was exposed at an action tried before the Supreme Court of Victoria at Melbourne, and others reported before in the medical literature, show that every physician should see that his patient gets exactly what he prescribed. No "just as good" allowed.

Intestinal Toxemia.

THE investigations of Metchnikoff and Schmidt, together with the later studies of Lane, Jordan and many others, have lain such emphasis on the evils resulting from intestinal stasis that it is at last recognized that no small proportion of the diseases afflicting the human family are directly attributable to faulty elimination of the intestinal accumulations in the lower bowel. For a long time, to be sure, the evils of chronic constipation have been realized, but it is doubtful if, until Lane began to speak of the large intestine as the "cesspool of the human body," the dangers of intestinal putrefaction were fully appreciated.

It is hardly probable that Lane's radical treatment of "short-circuiting" the bowel—the removal of three to eight feet of intestine—will ever be popular, and simpler measures will unquestionably hold a definite place in the management of intestinal statis for some time to come.

Many and various are the remedies that have been employed with more or less success, but among recent remedies brought forward for accomplishing intestinal elimination, and, what is often of even greater importance, the removal of certain local intestinal conditions contributory to or the result of the bowel statis, Prunoids unquestionably stands first. This unique combination of phenolphthalein and

other carefully selected drugs has been found an evacuant of exceptional value. Its effect is prompt and certain, with none of the iniquities of the commonly-used laxatives and cathartics. Prunoids do not gripe nor occasion the slightest discomfort, although they produce very copious movements. Most important of all, however, is the physiologic effect on the intestinal glands and muscular tissue that follows their systematic use. Unlike most cathartics, the reactionary effect never tends to increase the constipation. One effective dose is often followed by regular movements for several successive days, and used routinely, in the absence of organic causes, gradual diminution and at last complete cessation of the remedy is always possible; in other words, a more or less permanent correction of the constipation is an almost invariable result.

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The Nutrition of Pulmonary Tissues.

DURING the winter and spring months the management of diseases of the bronchi and lungs is one of the most important functions of the physician. The treatment of acute infections must, of course, be largely symptomatic, but it is generally recognized that the best chance of securing results in chronic diseases of the bronchi and lungs is afforded by an agent that supplies nourishment to these tissues, and for such a purpose Cord. Ext. Ol. Morrhuae Comp. (Hagee) will give the utmost satisfaction. It contains the essential qualities of cod-liver oil, but is free from its nauseous properties, for which reason it should be selected whenever cod-liver oil is indicated.

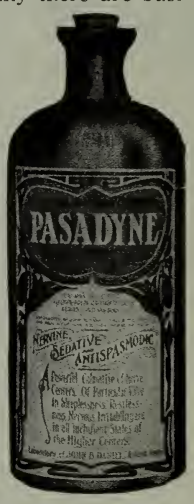
Convalescence.

THE secret of prompt recovery from many a serious illness will be found in the prompt institution of tonic treatment. The resulting uplift is often all that is needed to enable the body to re-establish a nutritional balance and develop adequate resistance.

Thus, after the acute diseases, such as typhoid fever, pneumonia, pleurisy, influenza or those requiring surgical operations, like appendicitis, intestinal ailments, utero-ovarian ailments, and so on, the return to health often hinges on the thought and care given to restorative treatment. If a reconstructive like Gray's Glycerine Tonic Comp. is used, the result is rarely if ever in doubt. Unlike many remedies used to promote convalescence, Gray's does not whip up weakened forces. On the contrary, it aids and reinforces them by increasing the power and capacity of physiologic processes throughout the body. Thus the appetite is improved, digestive and absorptive functions are activated and the resulting improvement in cellular nutrition insures a notable gain in vitality and strength. Weakness and debility vanish as vitality and strength appear. This tells why "Gray's" is so useful and effective after the acute diseases.

Nervousness and Sleeplessness.

BUSINESS men frequently consult physicians for relief from nervousness which may even prevent rest at night. Usually there are business worries on the minds of such patients. In those cases the physician oftentimes is hard put to choose an agent that will give relief and yet produce no bad effects. However, if he choose Pasadyne (Daniel), his patient will secure relief from the nervousness, and also refreshing sleep, and without untoward effect, too. Pasadyne (Daniel) is a concentrated tincture of passiflora incarnata. This distinctive name is given it to protect the physician and patient from the substitution of an inferior product.



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PHYSICIANS who are employing pituitary extract in cases of delayed parturition will be interested in this excerpt from an announcement by Parke, Davis & Co., which appears in the December issue of a contemporary:

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The Test of a Tonic.

The field and function of a systemic tonic is generally understood and appreciated by both physician and patient. To stimulate, whip or goad the vital processes is not to "tone," but, on the contrary, to ultimately depress. A real tonic is not a mere "pick-me-up," but some agent that adds genuine strength, force and vigor to the organism. The genuine tonic is a builder or reconstructor of both blood and tissue. Any agent which will increase the power of the blood to carry and distribute the life-giving oxygen is a tonic in the best and truest sense of the word. Iron in some form is an ideal tonic, as it builds up the vital red cells of the blood and the hemoglobin which is their essential oxygen-carrying element. Of all forms of iron, none is quite as generally acceptable and readily tolerable and assimilable as Pepto-Mangan (Gude). It creates appetite, tones up the absorbents, builds the blood, and thus is a real tonic and reconstructive of high order. It is especially desirable because of its freedom from irritant properties, and because it never causes a constipated habit.

Nervousness.

As to the drugs to be given in nervousness, there is only one class which has a specific influence in controlling nervous excitability. This is the bromides, and it has been found that a mixture of several of them is better than one alone. For this reason many physicians prefer Peacock's Bromides, which is a splendidly balanced mixture and which even on prolonged use gives rise to little or no gastric disturbance. The dose must be regulated according to the state of the patient, but when judiciously given there is never any difficulty of controlling even the more severe cases of nervousness. In the more severe forms of neurasthenia complete rest in bed, with small doses of Peacock's Bromides, is usually more effective than any other treatment. In epilepsy, which is also a disease in which the brain reactions are exaggerated, larger doses are needed, but as this preparation is more pronounced in effect than other bromides, the enormous quantities which are sometimes prescribed are never necessary in order to control the convulsions, and as the digestion is rarely, if ever, deranged, it can be given for a much longer period of time.

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The severe and often intractable coughs of winter colds too often owe their continuance to systemic weakness. To relieve and overcome them it is essential to raise the vitality and nutrition of the whole body. For this purpose there is no remedy so prompt and reliable in its effects as Gray's Glycerine Tonic Comp., and its easily-proven efficiency in affections of the respiratory tract—chronic bronchitis, incipient tuberculosis, asthma, laryngitis and catarrhal diseases in general—readily accounts for its widespread use by the profession in this class of ailments.

Its regular systematic administration rapidly restores the nutritional balance, and as patients gain in strength and weight usually the most intractable coughs grow less and less and finally disappear.

Concerning Cathartics.

To the layman a cathartic is simply a cathartic and nothing more. One thing is as good as another as long as it "moves the bowels." To the physician there is a vast difference between "moving the bowels" and inducing normal bowel action.

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Medical Review of Reviews.

[CONTINUED FROM FEBRUARY NUMBER.]

Patients who have been taking both morphine and alcohol should be treated for the morphine and can be tapered off at the same time from their alcohol. They are apt to have an active gastritis, which complicates their ability to retain their medication or to retain food. Sodium citrat in doses of from five to ten grains every hour best relieves this condition, with or without from ten to twenty grains of cerium oxalate or five grains of Tully's powder every two hours for one or two doses.

The treatment for alcoholism and cocainism is outlined by the author as follows: In treating an alcoholic the belladonna mixture and five compound cathartic pills and five grains of blue mass are given simultaneously at the first dose. The belladonna mixture is continued every hour of the day and every hour of the night the same as with the morphine patients, and twelve hours before the initial dose patients are again given from three to five compound cathartic pills, and at the twenty-fourth hour after the initial dose they are again given the cathartics, followed by salines if necessary, and again at the thirty-sixth hour. After these last cathartics the bilious stools will appear, and by the forty-fourth or forty-fifth hour the castor oil is given. Sometimes it is necessary to carry on the treatment over another period, and the compound cathartic pills and blue mass are again given at the forty-eighth hour. It may even be necessary to carry on the treatment one or two periods longer.

Elderly or very nervous patients who have been on a prolonged debauch are tapered off with two ounces of whisky for four or five doses through the first twenty-four hours. If these patients are excessively nervous it is necessary also to see that they sleep, and the mixture of chloral hydrate twenty grains, morphine one-eighth grain, tincture of hyoscyamus one-half dram, tincture of ginger ten minims, tincture of capsicum five minims, and water one-half ounce, which was recommended before, is the best hypnotic for them. These patients should also have cardiac stimulants such as strychnin and digitalis after the first twenty-four hours, or sooner if they are weak.

The cocainist can be treated like the alcoholic, except that no cocaine is given at any time, and strychnin or some such stimulant must be given from the beginning of the treatment.

To break a man from his tobacco habit alone he should be allowed to taper off the first twenty-four hours, or he can be cut off abruptly and should be treated like the alcoholic.

If the patient is a victim of both morphine and cocaine, then we have a very difficult combination to handle. Usually as the effect of the morphine wears off these patients become delirious, unreasonable, unmanageable and exceedingly ugly. They do not know or realize what they are saying or doing and they make trying patients. Often on the morning following their delirium they will have no recollection of what they have said or done or of any of the suffering which they asserted they were enduring, and will declare that they had a very good night.

As to the results of the treatment, the author says that in his experience 11 per cent. of the morphinists and 12 per cent. of the

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So prompt and decided are the effects of this reliable pain-reliever that it is the first remedy countless physicians turn to in the treatment of these affections. Clinical experience has shown conclusively that its administration is followed by a **rapid reduction of temperature, a marked decrease of muscular soreness, and a gratifying relief of pain.** Best of all, these results are obtained without the systemic disturbance, digestive derangement, constipation or danger of habit formation that are inseparable from the use of opium preparations.

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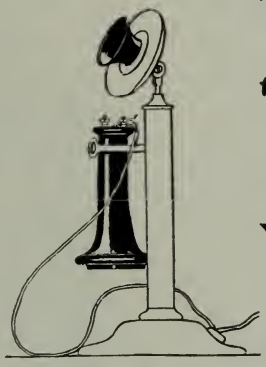

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alcoholists return for treatment. Even doubling this percentage it still gives us 75 per cent. as remaining free from addiction, and of these a very high percentage is known to have stayed free.

In spite of the splendid, in many cases marvelous, results obtained by the Towns treatment, the author does not offer it as a cure of morphinism or as a cure of delirium tremens or chronic alcoholism. It will, however, obliterate the terrible craving that these patients suffer when, unaided, they endeavor to get off their drugs or are made to go through the slow withdrawal without some medication to ease them. Compared with the old methods of either slow withdrawal or rapid withdrawal, it is infinitely superior. Deprivation of a drug is in no way equivalent to elimination of that drug from the body. Deprivation causes suffering; elimination relieves it. But neither this combination of drugs nor any other combination known to man can prevent persons, after they are free from their addiction—be it alcohol or morphine—from going out and repoisoning themselves by taking again the drug which has poisoned them and led them on to their habitual intoxication.

So long as a man lives and just so sure as that man lives, he can never again take a dose of alcohol for any reason whatsoever or in any form whatsoever without the danger of going again to excess. After the patients have been freed from their drug and from the desire for it they are by no means cured of their former habits of life and environment, and, more especially, of their former habits of thought. Many of these patients are psychasthenics, and the problem of their regeneration is one of psychology, to be reached only by psychanalysis and patient rebuilding of their distorted views of life. The quickest method to bring them back to health is to send these patients to some physical trainer in order that their bodies may be put in as perfect condition as their years and the state of their viscera permit. To mollycoddle them and treat them as neurasthenic invalids means simply to increase the liability of their relapse; but to build them up bodily will do more to build them up mentally for the first three to six weeks than any other method of procedure. If at the same time it is possible to treat them psychologically, one will often be well toward the solution of the problem by the time these patients have regained the full vigor of their physical health.

The author insists, however, that the treatment is distinctly a hospital treatment and cannot be carried out successfully in the patient's home. He says that the treatment is one of many details which have to be mastered before it can be successfully carried out. It is a mistaken kindness to alleviate the dread a patient has of taking the treatment by promising that he shall take it in his own home. The alcoholic will do as he chooses, not as the physician desires he shall do, if he is in his own home. The morphinist has hidden in various places supplies of morphine which he can obtain in spite of the strictest vigilance. If these patients are taken to a hospital the treatment can be given by those accustomed to administer it, where the medical attention can be more constant, where the patients will unconsciously exert more self-control than in their own environment, and where the supply of the narcotic can be controlled.

Dr. Richard C. Cabot, professor of clinical medicine at Harvard University, whose critical and discriminating judgment nobody will question, also speaks very highly of the Towns treatment. In a paper which appeared in the *Boston Medical and*

Constipation of Infants

Due to Faulty Protein Digestion

May be corrected by using for the carbohydrate portion of the milk mixture Mellin's Food in sufficient amounts to thoroughly attenuate or modify the casein of the milk. Regardless of the age of the infant, it is best to begin with not less than three level tablespoonfuls of Mellin's Food to each pint of the modification, gradually increasing this quantity until a soft, smooth stool results. In some cases, it will be necessary to add four or five tablespoonfuls of Mellin's Food to each pint of the mixture.

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Surgical Journal for May 11, 1911, he states that he spent several days in Mr. Towns' private hospital, watching the progress of alcoholic and morphine cases at different times of the day and in different stages of their treatment. He was struck, he says, at once by the small amount of suffering undergone by these patients as compared with the much severer suffering with which he had been previously familiar in watching the results of withdrawing morphine either suddenly or gradually.

* * * * * * *

The treatment is now in use in several hospitals, but is, of course, most successfully carried on in the Charles B. Towns Hospital of New York, specially devoted to the treatment of alcoholism and drug addiction. Two important features distinguish this hospital from practically all other hospitals in the United States for any cure of drug addictions. The first feature is that any physician sending in a patient to the hospital is not only at liberty, but is welcome to visit the patient as often as he pleases and to watch every step of the treatment. Not a dose is given secretly; everything is marked on the patient's chart, and the physician knows just what the patient is getting, what the entire treatment has been during his stay in the hospital. The element of secrecy, which is the greatest assets of fakirs and charlatans, is entirely eliminated in this hospital, where everything is open and above board. Another extremely important feature of this in many ways unique hospital is that it charges a flat fee for the complete treatment, payable in advance, and there is therefore no temptation, there *can* be *no* temptation, to keep the patient a day longer, an hour longer than absolutely necessary. It is a well-known fact that when a patient pays for his treatment by the week there is necessarily a temptation, conscious or unconscious, to keep him as long as posible. This is entirely eliminated in the Charles B. Towns Hospital, for the patient paying the same price, whether he stays three days or three weeks, there is naturally no object in prolonging his stay. As to the high ethical manner in which the hospital is conducted, this has been acknowledged by all who have familiarized themselves with its methods and its personnel. The fact that some of New York's foremost physicians, such as Prof. Samuel W. Lambert, Prof. Alexander Lambert, Prof. Smith Ely Jeliffe, Dr. George M. Swift, Dr. James W. Fleming, constitute its consulting staff is in itself a sufficient guarantee of the high ethical plane on which this splendid humanitarian establishment is conducted.

Those familiar with the Charles B. Towns Hospital have given it unstinted praise. It is only necessary to bring Mr. Towns' work to the notice of the entire profession to secure for it the profession's generous and undivided support.

Excerpts.

INTESTINAL OBSTRUCTION

Some interesting studies in intestinal obstruction with the report of a trial of feeding heterologous jejunal and ileas cells to a human being are published by J. W. Draper, New York (*Journal A. M. A.*, Sept. 26, 1914). He remarks that it is hard to understand why obstruction in the duodenal region should be many

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DOSE---One to three tablets at bedtime as required.

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DOSE---One to two teaspoonfuls shortly before or during each meal.

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Useful and effective in **Tachycardia, Palpitation, Tobacco Heart, Arrhythmia,** and all **Functional Diseases of the Heart** where the heart's action needs supporting, strengthening or regulating.

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times as dangerous as obstruction in the colon, and remarks on the antemortem symptoms of this condition and those seen after parathyroidectomy. No one, he says, could remain in doubt as to the function of the liver being greatly disturbed in each. He gives tables based on the study of the urine of duodenally obstructed dogs, both before and after a large dose of camphor had been given hypodermatically. The recovery of the glycuronic camphor was made by Tollens' method. In one of the dogs the unusually long duration of life after the operation may indicate high liver resistance or inaccuracy in Tollens' method. Further studies as regards this point are being made. Some experiments were also made to test the hypothesis that water privation was the chief lethal factor after intestinal obstruction. The water percentage in the tissues of dogs was tested under various conditions and the results seem to offer proof that in intestinal obstruction toxemia, the solvent power of water on the toxins and its help in eliminating them from the body may prolong life, and even save it under certain conditions. He has carefully examined the liver, heart and kidneys of a large number of obstructed animals and finds that, barring capillary dilatation, they appear normal. It appears therefore probable that the toxins of intestinal obstruction are eliminated both from the stomach and the colon. The capillary evidence of stomach elimination suggests the possible explanation of the interesting results of feeding duodenally obstructed animals the epithelial cells from the ileum and jejunum of other animals. Dogs thus fed lived nearly twice as long as the controls. Draper could not previously understand this, but now it seems probable that since the toxins are undoubtedly thrown out into the stomach they are directly rendered harmless by the heterologous cells from a healthy animal and thus prevented from re-entering the body. In order to show that fed jejunal and ileac epithelium exercises a special detoxicating power he also fed a control series of dogs on the emulsified cells of liver, spleen, pancreas and muscle tissues. These animals lived but a few hours longer than those that were not fed, but detoxicating action was very slight compared with that of the intestinal epithelium. He has used jejunal and ileac epithelium clinically in two cases: First in a valuable dog and second in the case of a man who had had definite symptoms of obstruction for ten days. The patient was in a desperate condition and it was decided to feed him the emulsion from a dog. Hourly doses were given until the entire duodenal epithelium from two dogs had been given. The patient said it was not "half bad." The pulse improved and the patient lived. The toxemia, Draper concludes, in duodenal obstruction undoubtedly arises from an interference with cellular reactions of the intestinal epithelium, and the evidence is strongly opposed to the bacterial theory of the origin of these toxins. Draper recommends that it be administered in colonic irrigations as well as by the stomach.

THE TONSILS.

J. H. Comroe, York, Pa. (*Journal A. M. A.*, Oct. 17, 1914), makes a plea for the tonsil as an organ whose existence is more often beneficial than otherwise and the sacrifice of which is often needless. There is no doubt that the removal of tonsils is often needed, but he thinks that there is probably too much zeal for

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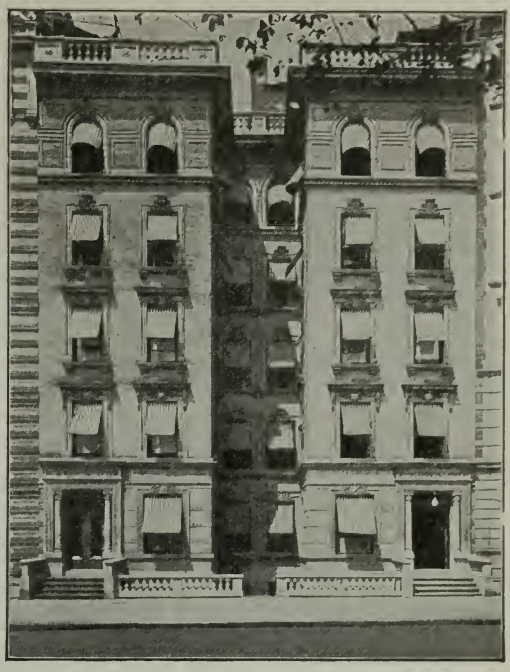

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The Towns treatment is administered *only* in the Towns Hospital in New York; it has no connection with any other institution. The course is brief—so brief that it is of distinct advantage to out-of-town physicians who wish to come to New York with their patients and follow the treatment, no part of which is secret.

PRIVACY is a feature of this hospital; we are not interested in the social position of a patient; we do not group or mass our patients together; each is treated individually. Patients are separated and not permitted to invade the privacy of each other.

THE TOWNS METHOD has been fully explained in articles appearing in the Journal of the American Medical Association, and reprints of these and articles from other publications, together with a booklet containing full information as to the treatment, duration, terms, etc., will be mailed on application.

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operation. In 1912 there were in Philadelphia 37,000 recommendations made for the removal of tonsils by the school inspectors, and in the same year in New York it was reported by the inspectors that 30 per cent. of the children had hyper-trophied tonsils. As it was the desire of the department to fix a certain standard as to when operation should be performed, a letter was sent to a number of eminent specialists in nose and throat diseases to obtain their opinions on this point, and it is a significant fact that no two of them exactly agreed. Comroe says the faucial tonsil is a natural organ; some questions as to its physiology have been definitely settled and there is almost uniform agreement as to others, but some points still remain to be solved. From their important anatomic position they would seem like the first line of defense in the throat, and this function is a most important one. Various authors have shown that the tonsils contain a vast number of leukocytes, and Comroe refers to authorities like Adami, Brieger and others to show the defensive action of these bodies. Besides, he adds that it has been conclusively proved by Hodenpyl that they actually antagonize the entrance to their interior of infectious germs. The phenomena of absorption at the level of the tonsils have been studied experimentally by Labbé and Levi-Sirugue, whose findings are in full accord with those of Hodenpyl. The clinical proof of its defensive action has also been abundantly given. In addition to this, the tonsil has other functions, such as the internal secretion believed in by Escet, Shurley and others, its value as a lubricant emphasized by Miller, its effect on the voice and the continued autovaccination asserted to occur by Digby, which causes a certain degree of immunity. While various diseases have been credited to the tonsils as foci from which they can be distributed, Comroe remarks that many of the most important organs of the body are also foci of infection, but their extirpation is not demanded. He therefore protests against operative intemperance as regards the tonsils, which he thinks were placed in the body for good, and holds that their function is physiologic rather than pathologic in the organism.

RADIUM IN CANCER.

Radium will gradually take its proper place. It is going through the period of enthusiasm that Roentgen-ray therapy experienced ten years ago. We really know now the extent of its possibilities. It is useful in numerous dermatoses and it is indisputable that it can be used successfully to destroy certain localized malignant growths, that is, growths on the surface whose entire extent can be sufficiently exposed to its energy. Extensive growths involving deep structures and disseminated growths are beyond its control, and there is no reason to believe that they will ever be brought within its control, even if the supply is largely increased.—(*J. A. M. A.*, Aug. 29, 1914.)

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THIS Directory is maintained mainly for the benefit of local firms seeking the patronage of physicians and their families. Only well established and reliable concerns will be represented, and doubtless the space at our disposal will be constantly in demand. In responding to these exploitations, the reader will find it mutually advantageous to mention the MARYLAND MEDICAL JOURNAL.

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HARDLY another of all the preparations in existence offers a wider scope to imposition under the plea of "just as good" than the scientifically standardized Eucalyptol.

The most recent fraud practiced in regard to this product is an attempt to profit by the renown of the firm of Sander & Sons. In order to foist upon the unwary a crude oil, that had proved injurious upon application, the firm name of Sander & Sons is illicitly appropriated, the make-up of their goods imitated, and finally the medical reports commenting on the merits of their excellent preparation are made use of to give the desired luster to the intended deceit.

This fraud, which was exposed at an action tried before the Supreme Court of Victoria at Melbourne, and others reported before in the medical literature, show that every physician should see that his patient gets exactly what he prescribed. No "just as good" allowed.

The Phylacogen Treatment of Pneumonia.

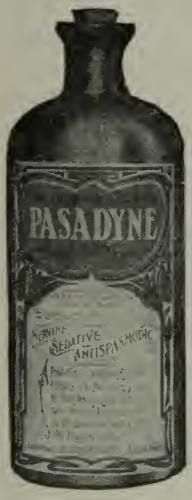
AS EVERY physician of experience knows, the mortality in pneumonia is very high, as compared to that of the average infectious disease. The dream of scientific men that a specific for pneumonia would some day materialize has not yet become a fact, and it is probable that it will not for a long time to come. In the opinion of many advanced members of the profession, Pneumonia Phylacogen, while not a specific, is the nearest approach to such an agent. Certainly some remarkable results have followed the use of this product in many serious cases that have been reported in recent months—cases in some instances that had failed to respond to conventional methods of treatment. Physicians owe it to their pneumonia patients to inform themselves with respect to the merits and accomplishments of Pneumonia Phylacogen. Ample literature on the subject is available. It will be cheerfully sent to any practitioner who will address a request for it to Parke, Davis & Co., the manufacturers of Phylacogens, with home offices and laboratories at Detroit, Michigan.

Reading Notice.

A UNIQUE little brochure (24 pages) on "Clinical Symptomatology" has already been distributed to the medical profession by the Purdue Frederick Company, who prepare the well-known Gray's Glycerine Tonic Comp. This consists of a number of tables or charts giving the common or usual "symptom-complex" of each of sixty different diseases and will prove of exceptional value for reference purposes. If any physician did not receive a copy of "Clinical Symptomatology" he can easily obtain a copy by addressing The Purdue Frederick Company, 135 Christopher street, New York City.

Therapy of Nervous Headaches.

THE advantages of Pasadyne (Daniel), the concentrated tincture of Passiflora Incarnata, as a means of relief in headaches of a nervous type are so marked that it seems to warrant the distinction of being put in a class by itself. In this condition Pasadyne (Daniel) not only soothes the cephalalgia, but also exerts a potent force on the nervous element so noticeable in these cases. It may be given to women and children without causing unpleasant symptoms, oftentimes a feature of other agents. A sample bottle for trial may be had by addressing the laboratory of John B. Daniel, Atlanta, Ga.



IT is during the spring months more particularly that the physician is called upon to treat patients who, though not ill enough to be in bed, are not at all well. The symptoms are very much like those experienced in malaria, but the causes are entirely different and a different treatment is necessary.

This condition arises from the fact that in the spring the eliminative functions do not present their usual activity owing to the torpor and locked-up secretions which have existed during the winter months, when the skin neglects its duties and the kidneys are overworked.

In such cases the use of Tongaline, either liquid or in one of its tablet forms, will be attended with most beneficial results by promoting the absorptive powers of the various glands which have been clogged and by its stimulating action upon the liver, the bowels, the kidneys and the skin.

Convalescence.

THE secret of prompt recovery from many a serious illness will be found in the prompt institution of tonic treatment. The resulting uplift is often all that is needed to enable the body to re-establish a nutritional balance and develop adequate resistance.

Thus, after the acute diseases, such as typhoid fever, pneumonia, pleurisy, influenza, or those requiring surgical operations, like appendicitis, intestinal ailments, utero-ovarian ailments and so on, the return to health often hinges on the thought and care given to restorative treatment. If a reconstructive like Gray's Glycerine Tonic Comp. is used, the result is rarely, if ever, in doubt. Unlike many remedies used to promote convalescence, Gray's does not whip up weakened forces. On the contrary, it aids and reinforces them by increasing the power and capacity of physiologic processes throughout the body. Thus the appetite is improved, digestive and absorptive functions are activated and the resulting improvement in cellular nutrition insures a notable gain in vitality and strength. Weakness and debility vanish as vitality and strength appear. This tells why "Gray's" is so useful and effective after the acute diseases.

European Soldiers Prevent Infection With Iodine.

IT is noteworthy that reports from the fighting zone in Europe show that a great number of wounded soldiers recover quite rapidly. Much credit is given in the surgical reports to the value of an aqueous solution of iodine, and it is said that every soldier is provided with a vial of solution of iodine, with instructions to use it freely on the slightest wound to prevent infection.

The value of iodine for the prevention of infection in wounds of a local nature has long been recognized. What would seem to be the most rational methods of application, however, have been perfected in this country in three preparations manufactured by Eli Lilly & Co. at Indianapolis.

These products are called Iogens. They consist of a powder, an ointment and an oil, and in their original state they show no iodine content; but on contact with the moisture of the secretions, as in superficial wounds or cavities lined with mucous membrane, they liberate

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small quantities of iodine slowly over an extended period of time. The advantage of iodine preparations in these forms, acting as they do, will readily be appreciated. Some remarkable reports are on file at the Lilly home office which justify the assertion that iodine is a valuable germicide, and that Iogen, Lilly, in its best adapted form, is a decidedly improved method of applying it.

Simple, Efficient and Agreeable.

A GREAT variety of means have been devised for the disinfection of the oral cavity—gargles, sprays, paints, and the compressed antiseptic tabloid—all of which are more or less troublesome, whilst the compressed tabloid is very uncertain, the antiseptics having frequently evaporated by the time the patient uses it. A convenient, effective and pleasant method to bring a reliable antiseptic into constant contact with the pharyngeal and nasal mucosa is to direct the patient to put three drops of Sander's Eucalyptol on a piece of loaf-sugar and allow it to dissolve in the mouth. The volatile nature of Sander's Eucalyptol makes it penetrate every crevice in the oral and nasal cavities, whilst it is also inhaled into the trachea and bronchi, in all of which it exercises a great antiseptic and, by virtue of its aroma, a salutary stimulant effect. In influencal sore throat this treatment is specific, the headache disappearing quickly and rapid general improvement following, especially if supplemented by internal doses of five drops Sander's Eucalyptol in a tablespoonful of water. Tonsilitis, the rheumatic, scarlatinal, diphtheritic and septic sore throats are all amenable to such treatment. In bronchial and asthmatic affections it should be combined with steam inhalations, to which 10 drops of Sander's Eucalyptol have been added. To avoid disappointment, Sander's Eucalyptol should be specified. The common eucalyptus oil, containing as it does all woody extractives, is always irritating and, what is more objectionable, nauseous. Sander's Eucalyptol is prepared from the carefully selected leaves of a certain species, and any admixture of wood is scrupulously guarded against. It has no nauseous effect, no heart depressing action, and is standardized, producing always a constant and definite therapeutic effect.

IT is now pretty well demonstrated that the enteroptosis of children and adults is but a phase—a structural fixing, so to speak, of a general functional habit of ptosis. We are getting away (and rightly so) from the provincial habit of regarding these structural organic deviations as isolated entities, and are coming more and more to recognize their invariable relation to the function-complex of the body; the habitus is becoming a definite and definable quantity in etiology, and even in pathology. No treatment of any form of ptosis, therefore, can be scientific or rational which does not take account of this habitus and provide against it. This is what gives the efficiency and reputation to the now famous Storm binders, that they are constructed with an intelligent regard to the functional exigencies of the case, and designed to prevent and to correct the postural errors which compromise the anatomy and function of the viscera. As long as they display this rationality they will continue to be as popular with the scientific physician as they are at this moment.—*American Journal of Clinical Medicine*, Dec., 1914.

After an Alcoholic Debauch.

As a sedative in relieving the extreme nervous irritability and hypercerebration following excessive use of alcoholic drinks, Bromidia (Battle) gives a striking demonstration of its therapeutic powers. A few moderate sized doses and relief is at hand.

The constituents of Bromidia, which are chosen with an eye toward purity, are carefully compounded, and thus the evil effects of hastily prepared mixtures are avoided.

Glyco-Thymoline in Tonsillitis.

A local remedy must fill two requirements—it must be a detergent antiseptic and produce a degree of permanency of effect.

Glyco-Thymoline as a gargle, or used as an atomizer, produces excellent results. It rapidly relieves the dry, congested condition of the mucous membrane by its exosmotic action and its anodyne effect is immediate and lasting.

Glyco-Thymoline is harmless, and if any is swallowed will produce a beneficial effect by breaking up any mucous plugs that may have gained access to the stomach.

Puny Children.

To overcome that unfortunate nutritional state so frequently seen in young children, marked by indifference to both mental and physical effort, pallor, glandular enlargement, and hypersusceptibility to naso-pharyngeal inflammations, no agent is quite comparable to Cord. Ext. Ol. Morrhuae Comp. (Hagee).

Not only does it possess large value as a tissue food, but it is palatable and easily assimilated, for which reasons it is especially desirable for continued use.

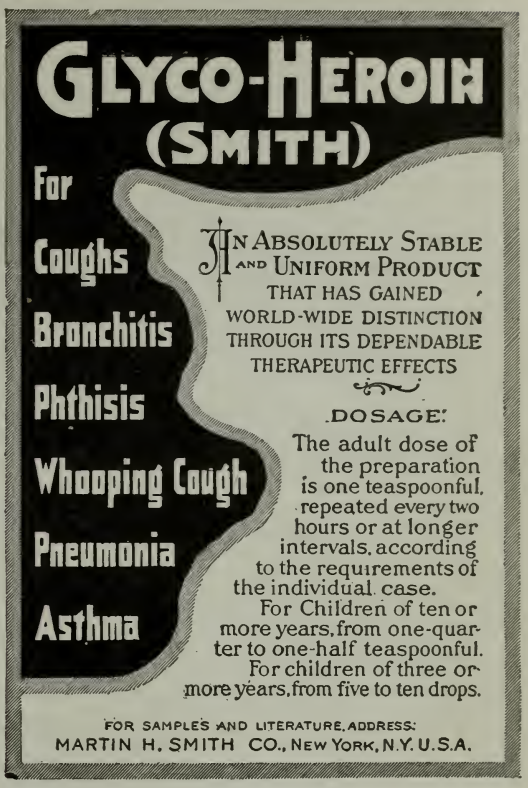
Before and After Childbirth.

Childbirth is always attended by more or less danger and discomfort. Too often the extra burden a prospective mother has to bear overtaxes her nutrition and strength.

The mother who nurses her baby also frequently has to have supportive treatment to enable her to meet the demand placed on her bodily metabolism by the needs of her growing offspring. At such times of stress effective tonic treatment is always required and clinical experience has clearly shown that no remedy is so serviceable from every standpoint as Gray's Glycerine Tonic Comp.

Used throughout the later months of pregnancy and during the puerperium, it gives to the mother the exact stimulus and support needed not only to carry her through a trying period, but to fit her for the still more exacting one of lactation.

Free from contraindication, it is the one remedy that the practitioner can employ before and after parturition with absolute certainty that its effects will never be harmful, but invariably beneficial and helpful.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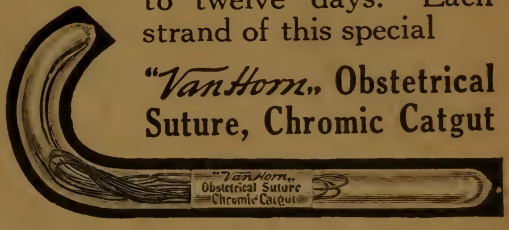

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Editorial Comment.

A UNIFORM FEDERAL LICENSING ACT.

The Medical Times.

The active interest aroused in the profession and among contemporary journals by a recent symposium conducted by *The Medical Times* upon the subject of a uniform federal licensing act moves us to depart for a brief space from the realms of medicine and to venture a slight incursion into the province of our sister profession of law.

We have been advised that no federal licensing act is possible without an amendment to the United States Constitution.

This opinion has been challenged in some quarters—lay, medical and legal.

In support of the opinion which has been expressed to us and which carries much weight with us, we desire to quote certain extracts from decisions of the Supreme Court of the United States, which, we are informed, are controlling upon the question.

The first proposition that we advance is that the licensing of physicians and the provision of qualifications thereof is a matter within the police power of the separate sovereign States of the Union.

Mr. Justice Field, in the case of Dent v. West Virginia, 129 U. S. 122, said:

"The power of the State to provide for the general welfare of its people authorizes it to prescribe all such regulations as, in its judgment, will secure or tend to secure them against the consequences of ignorance and incapacity as well as of deception and fraud. As one means to this end it has been the practice of different States, from time immemorial, to exact in many pursuits a certain degree of skill and learning upon which the community may confidently rely, their possession being generally ascertained, upon an examination of parties by competent persons, or inferred from a certificate to them in the form of a diploma or license from an institution established for instruction on the subject, scientific or otherwise, with which such pursuits have to deal. The nature and extent of the qualifications required must depend primarily upon the judgment of the State as to their necessity. If they are appropriate to the calling or profession, and attainable by reasonable study or application, no objection to their validity can be raised because of their stringency or difficulty. It is only when they have no relation to such calling or profession, or are unattainable by such reasonable study and application, that they can operate to deprive one of his right to pursue a lawful vocation.

"Few professions require more careful preparation by one who seeks to enter it than that of medicine. It has to deal with all those subtle and mysterious influences upon which health and life depend, and requires not only a knowledge of the properties of vegetable and mineral substances, but of the human body in all its complicated parts, and their relation to each other, as well as their influence upon the mind. The physician must be able to detect readily the presence of disease, and prescribe appropriate remedies for its removal. Everyone may have occasion to consult him, but comparatively few can judge of the qualifications of learning and skill which he possesses. Reliance must be placed

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upon the assurance given by his license, issued by an authority competent to judge in that respect, that he possesses the requisite qualifications. Due consideration, therefore, for the protection of society may well induce the State to exclude from practice those who have not such a license, or who are found upon examination not to be fully qualified. The same reasons which control in imposing conditions, upon compliance with which the physician is allowed to practice in the first instance, may call for further conditions as new modes of treating disease are discovered, or a more thorough acquaintance is obtained of the remedial properties of vegetable and mineral substances, or a more accurate knowledge as acquired of the human system and of the agencies by which it is affected. It would not be deemed a matter for serious discussion that a knowldge of the new acquisitions of the profession, as it from time to time advances in its attainments for the relief of the sick and suffering, should be required for continuance in its practice, but for the earnestness with which the plaintiff in error insists that, by being compelled to obtain the certificate required, and prevented from continuing in his practice without it, he is deprived of his right and estate in his profession without due process of law. We perceive nothing in the statute which indicates an intention of the Legislature to deprive one of any of his rights. No one has a right to practice medicine without having the necessary qualifications of learning and skill; and the statute only requires that whoever assumes, by offering to the community his services as a physician, that he possesses such learning and skill shall present evidence of it by a certificate or license from a body designated by the State as competent to judge of his qualifications."

Mr. Justice Brewer, in the subsequent case of Hawker v. New York, 170 U. S. 189, citing with approval the Dent case, said:

"It is insisted that within the acknowledged reach of the police power a State may prescribe the qualifications of one engaged in any business so directly affecting the lives and health of the people as the practice of medicine. * * *

"We are of opinion that this argument is the more applicable and must control the answer to this question. No precise limits have been placed upon the police power of a State, and yet it is clear that legislation which simply defines the qualifications of one who atempts to practice for the public health is something confessedly belonging to the domain of that power."

The second proposition which we advance is that the Government of the United States is one of delegated powers alone. Its authority is defined and limited by the Constitution. All powers not granted to it by that instrument are reserved to the States or the people. No rights can be acquired under the Constitution or laws of the United States except such as the Government of the United States has the authority to grant or secure. We cite in support of this contention the case of United States v. Cruikshank, 92 U. S. 542:

"Experience made the fact known to the people of the United States that they required a national government for national purposes. The separate governments of the separate States, bound together by the articles of confederation alone, were not sufficient for the promotion of the general welfare of the people in respect to foreign nations, or for their complete protection as citizens of the confederated States. For this reason the people of the

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United States, 'in order to form a more perfect union, establish justice, insure domestic tranquillity, provide for the common defense, promote the general welfare, and secure the blessings of liberty' to themselves and their posterity (Const. Preamble), ordained and established the Government of the United States, and defined its powers by a constitution, which they adopted as its fundamental law, and made its rule of action.

"The government thus established and defined is to some extent a government of the States in their political capacity. It is also, for certain purposes, a government of the people. Its powers are limited in number, but not in degree. Within the scope of its powers, as enumerated and defined, it is supreme and above the States; but beyond, it has no existence. It was erected for special purposes, and endowed with all the powers necessary for its own preservation and the accomplishment of the ends its people had in view. It can neither grant nor secure to its citizens any right or privilege not expressly or by implication placed under its jurisdiction.

"The people of the United States, resident within any State, are subject to two governments—one State and the other national—but there need be no conflict between the two. The powers which one possesses the other does not. They are established for different purposes, and have separate jurisdictions. Together they make one whole, and furnish the people of the United States with a complete government, ample for the protection of all their rights at home and abroad. * * *

"The Government of the United States is one of delegated powers alone. Its authority is defined and limited by the Constitution. All powers not granted to it by that instrument are reserved to the States or the people. No rights can be acquired under the constitution or laws of the United States except such as the Government of the United States has the authority to grant or secure. All that cannot be so granted or secured are left under the protection of the States."

It has been suggested that if a federal licensing board was constituted, various States would accept the same.

The insuperable objection to this plan, it seems to us, is that the federal license under such an arrangement could not be imposed upon any State against its will.

In view of this legal situation, we are remitted, in a consideration of this question, to the view that the various States should have uniform licensing statutes, providing uniform educational, professional and personal qualifications.

OCCUPATION NEUROSES.

Published in the Cleveland *Medical Journal*, July, 1914.

Dr. Tom A. Williams of Washington, D. C., at the International Congress of Medicine, stated that a nervous breakdown supposed to be due to one's work is traceable very often to mental predispositions which have nothing to do with the work at all. Therefore compensation for industrial nervous diseases, including simstrosis, should only be made after due appreciation of the individual's makeup.

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do solemnly and truthfully swear that the cocaine, coca, their derivatives or prepartions containing cocaine or its derivatives, more particularly described in attached invoice, bill of lading, or bill of sale, purchased from [2].....
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the.....day of....., 191.., are intended in good faith for use in a manner not dangerous to the health of the people of the United States, and that I will keep, or have kept, a complete record of [4]..... in [5].....
packages of cocaine, coca, their derivatives or preparations containing cocaine or its derivatives, and will secure from each and every person, firm or corporation to whom the goods herein described, their derivatives or preparations shall be sold, in whole or in part, a declaration of this form, which declaration shall be kept on file for a period of not less than three years and be open to inspection of any properly accredited Government inspector.

"I further do solemnly and truthfully swear that each and every package of cocaine, coca, their derivatives, or preparations contain-

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[1]Name of individual or representative.
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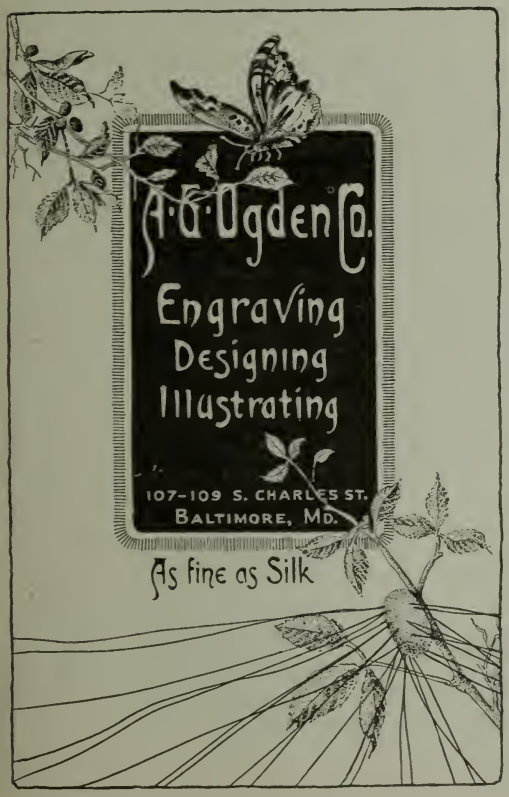

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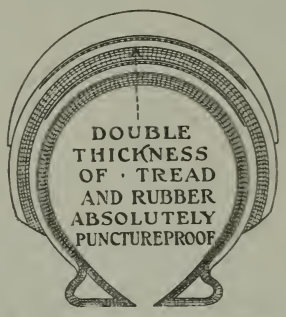

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32 x 3½''	12.75	3.20
34 x 3½''	12.90	3.40
31 x 4''	14.25	4.00
32 x 4''	14.90	4.10
33 x 4''	15.75	4.20
34 x 4''	16.70	4.35
35 x 4''	16.80	4.60
36 x 4''	17.45	4.65
37 x 4''	17.65	4.70
34 x 4½''	18.60	4.80
35 x 4½''	21.20	5.60
36 x 4½''	22.50	5.75
37 x 4½''	23.60	6.20
35 x 5''	24.40	6.35
36 x 5''	25.10	6.55
37 x 5''	26.30	6.60

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MEDICAL MILK COMMISSIONS AND CERTIFIED MILK.

The first bulletin in the new departmental series of the United States Department of Agriculture is a contribution from the Bureau of Animal Industry, entitled "Medical Milk Commissions and Certified Milk." This is a revision of a previous bulletin on the same subject.

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Camphedine—A New Iodine Preparation.

By C. A. Bryce, M.D., Richmond, Va.

Reprint from the Southern Clinic, Nov., 1914.

The writer has been using in his practice for a considerable time an iodine preparation put up by A. H. Robins Co., of this city, and known as Camphedine. The effects of this local remedy have been so remarkable and so satisfactory that I am impelled to call the attention of the profession to the same. I have used it under many and varied conditions, and attribute its great therapeutic value to the fortunate properties of its vehicle, which permits the remedy to enter the tissues and blood stream, as it were, by osmosis, bringing about results immediate and satisfactory. Wherever the therapeutic properties of iodine are indicated, camphedine can be relied upon, minus the disadvantages of crude iodine. It relieves local pain promptly without local irritation; on the contrary, it can be applied to denuded or burned surfaces as an anodyne.

As an antiseptic dressing, it is equal to any, and without the dangers of most of them. In all cases where prompt absorption, or lymphatic stimulation is desired, it penetrates the tissues almost as soon as it is applied to the skin. Among many cases on my notebook, I will mention one of especial interest, because I attribute the happy relief of all symptoms to the free use of camphedine.

Early in the present year I was called to see a Mrs. B——, a frail little woman suffering from a recurrent attack of appendicitis. The symptoms were plain, positive and unmistakable, and she informed me that former attend-

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ants had urged the importance of operation. She was suffering severe pain, and her facial impression denoted reflex abdominal trouble. There was the soggy tumefaction over the appendix, pain and flexed limb on affected side. I put her upon a liquid diet, enjoined absolute rest and quiet and covered the right iliac quadrant with a saturated gauze of camphedine and kept it thus covered until she was entirely relieved, which occurred within 24 hours, so far as pain was concerned. In a week she was feeling entirely well, and the tumefaction and tenderness was all gone. She has had no trouble since, and I am satisfied that there are many cases of recurring appendicitis that could be cured through the alterative, absorbent and antiseptic virtues of this remedy which finds its way so readily into the diseased tissues.

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The Neurasthenic Invalid.

LIKE the poor, the neurasthenic is "always with us," and while the stress and strain of modern life and living continue, the physician will be called upon to treat the more or less chronic invalid who exhibits all sorts of bizzare symptoms, in endless and kaleidoscopic variety. It is, of course, an easy matter to advise the physician to search out and remedy the operative cause of the disorder, but it is not always as easy to do this, especially when no organic changes are discoverable. While purely symptomatic treatment may be unscientific, it is usually essential, in order to gain and retain the confidence of the patient. There is, however, one pathologic finding in a large majority of cases, and that is anemia of greater or lesser degree. In some instances this may be found to be the essential cause of the neurotic symptoms. In any event, this condition should be corrected, and for such purpose there is no better remedy than Pepto-Mangan (Gude). When a hematinic is indicated for a nervous, cranky man, or a finicky, more or less hysterical woman, Pepto-Mangan is peculiarly serviceable, as the patient cannot consistently object to the taste, which is agreeable to every one. The digestion is not interfered with in the least, constipation is not induced, and the blood-constructing effect of the remedy is prompt and certain. It is always worthy of trial, not only in the anemia of the neurasthenic invalid, but also in all conditions of blood and tissue devitalization.

A Woman's Number.

THE May issue of the Medical Review of Reviews is to be a woman's number. All the articles contributed will be from the pens of women physicians whose work has achieved national importance. With the growth of the feminist movement, the economic position of women has attracted universal attention. As medicine was practically the first profession open to women, it is only proper at this time to consider whether their entrance into the medical profession has been of benefit.

In order that women may present testimony by which they should be judged, it has been deemed advisable to give them an entire issue to present the evidence of the value of their accomplishments. In the laboratory, in the hospital, in institutions at the bedside, and in public service, women physicians have performed a valuable function. As a tribute to their earnestness, enthusiasm, modesty, energy,

perseverance and scientific acumen, the May number of the Medical Review of Reviews will be dedicated to the women physicians of America.

Glandular Tuberculosis.

THE indication for cod liver oil is so marked, of course, that the only question that will come up in regard to its use in such cases is the most suitable form in which to give it. Inasmuch as so many of these cases are in young children, the need for a palatable product at once becomes a conspicuous feature.

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CHILDBIRTH is always attended by more or less danger and discomfort. Too often the extra burden a prospective mother has to bear overtaxes her nutrition and strength.

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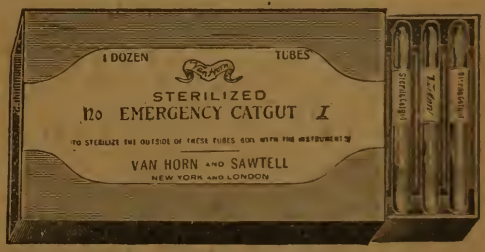

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The building of the Eastern Shore State Hospital for the Insane, located near Cambridge, was accepted recently by the board of managers of the institution at a meeting in Cambridge.

Mr. and Mrs. Nathaniel G. Grasty announce the engagement of their daughter, Mary Garland, to Dr. Roscoe R. Spencer, Johns Hopkins Medical School, '13, of West Point, Va.

Dr. Spencer was formerly connected with Bayview Hospital, and is now assistant surgeon in the United States Public Health Service in Washington. He has recently been commissioned by the Government to investigate the ravages of spotted fever, which has devastated certain portions of Montana and the adjoining States, and will leave for the West about May 1.

BIRTHS.

To Harry D. McCarty, M.D., University of Maryland, '05, and Mrs. McCarty, of 37 W. Preston street, Baltimore, February 18, 1915, a son—Horatio Ball.

To James Herbert Bates, M.D., University of Maryland, '07, and Mrs. Bates, of Millington, Md., February 28, 1915, a daughter—Margaret.

Recently to J. Dawson Reeder, M.D., University of Maryland, '01, and Mrs. Reeder, of 639 Fulton avenue, Baltimore, a daughter.

MARRIAGES.

Ernest William Frey, M.D., University of Maryland, '12, to Miss Mary Jeanette Disney, both of Baltimore, Md., at Baltimore, March 22, 1915.

Frederick T. Leitz, M.D., Physicians and Surgeons, '02, to Miss Beatrice Bernheimer, both of Baltimore, at the Belvedere Hotel, Baltimore, April 7, 1915.

DEATHS.

Charles Ellsworth Boyd, M.D., Baltimore Medical College, '92; University of Wooster, Cleveland, '92; a Fellow of the American Medical Association, died at his home in Newton, Iowa, February 27, 1915, from pneumonia, aged 45 years.

Thomas Gay Whims, M.D., University of Maryland, '11; a member of the Medical Society of the State of North Carolina and a practitioner of Lasker, N. C., died in the University Hospital, Baltimore, March 4, 1915, from sarcoma of the arm, for which two surgical operations had been performed, aged 37 years.

Samuel Claggett Chew, M.D., University of Maryland, '58; LL.D. University of Maryland, '07; professor of materia medica in his alma mater from 1864 to 1866; professor of medical practice until 1907, and a year later made emeritus professor of medicine; dean of the University of Maryland from 1874 to 1879 and twice president of the Alumni Association; twice president and thrice vice-president of the Medical and Chirurgical Faculty of Maryland; consulting physician to Johns Hopkins Hospital; president of the board of trustees of the Peabody Institute and member of the board of regents of the University of Maryland, died at his home in Roland Park, Baltimore, after an illness of more than a year, March 22, 1915, aged 77 years.

William B. Smith, M.D., University of Maryland, '99; a Fellow of the American Medical Association and a practitioner of Hampton, Va., who sailed for Bristol, England, February 25 as surgeon of the steamer Victoria, died in Bristol, March 10, 1915, aged 41 years.

Greensbury W. Freeny, M.D., University of Maryland, '62, for many years a member of the Board of Education of Pittsville, Md., died at his home in that city, March 15, 1915, aged 62 years.

Oliver G. Getty, M.D., University of Maryland, '78, a practitioner of Grantsville, Md., until 1893, died at his home in Meyersdale, Pa., March 14, 1915, from cerebral hemorrhage, aged 59 years.

Horace M. Julian, M.D., University of Maryland, '95, died at his home in St. Louis, January 30, 1915, from cerebral hemorrhage, aged 53 years.

R. Sydney Cauthen, M.D., Baltimore Medical College, '02; a Fellow of the American Medical Association; a specialist on diseases of the eye, ear, nose and throat, of Charlotte, N. C., died at his home in Charlotte, March 24, 1915, from heart disease, aged 43 years.

Ernest P. Magruder, M.D., Georgetown University School of Medicine, '02, of Washington, D. C., died of typhus fever in a hospital in Belgrade, Serbia, April 8, 1915, aged 40 years. Dr. Magruder was a native of Upper Marlboro, Md. He was an alumnus of Johns Hopkins University, and for years was superintendent of the Emergency Hospital, Washington. At the time he left for Europe he was professor of clinical surgery at Georgetown University Medical School.

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AMERICAN COLLEGE OF SURGEONS—THE THIRD CONVOCATION.

THE third convocation of the American College of Surgeons was held in the Memorial Continental Hall in Washington on November 16 at 8 o'clock. The program for the evening was as follows:

7.30—Fellows and Guests assemble.
7.40—Governors assemble.
7.45—Candidates for Fellowship assemble.
8.00—Regents assemble with Honorary Fellows and Guests.
Invocation by His Eminence James Cardinal Gibbons.
Introductory Remarks by the President, J. M. T. Finney.
Presentation of the Roll of Candidates for Fellowship.
Conferring of Fellowships by the President.
Introduction of Honorary Fellows individually by the Regents and conferring of Fellowships by the President.
Fellowship Address by Edward H. Bradford.
Concluding Remarks by the President.
Adjournment followed by an informal reception to the Fellows and Guests by the Officers of the College.

The president, Dr. J. M. T. Finney, in the course of his introductory remarks, announced that subscriptions to the endowment fund of $1,000,000, which proposition has been presented to the college at its annual meeting, now amounted to approximately $250,000. He predicted that the full sum would be easily secured before the next annual meeting in 1915.

The secretary, Dr. Franklin H. Martin, before presenting the roll of candidates, conveyed to the fellows of the college a greeting from Sir Rickman Godlee, president of the Royal College of Surgeons of England, who came from England at the time of the first convocation to assist in the inauguration of the American College. This greeting included the presentation of a handsome gavel which had been prepared by Sir Richman Godlee as a gift to the college, and upon which the following sentiment was inscribed:

> This mallet was devised and used by Lord Lister and is presented to the American College of Surgeons by Sir Rickman Godlee, then P.R.C.S. England, in memory of his visit to Chicago, November, 1913.

The president, in receiving this token of friendship, spoke of the great honor that Sir Rickman Godlee had conferred upon the American College of Surgeons by his visit and his address of one year ago, and of his pleasure in receiving this beautiful gavel which linked us with the Royal College of Surgeons, with Sir Rickman Godlee and his illustrious uncle, Lord Lister, and ordered that the gavel be forever preserved in the archives of the American College.

The secretary then presented the roll of honorary fellows and of fellows. The list of fellows numbered 646. Their names will appear in the annual directory, which will be distributed to the fellows.

The honorary fellows were then introduced in turn by members of the Board of Regents, as follows:

Dudley P. Allen of Cleveland, introduced by Harry M. Sherman; William C. Gorgas of Washington, introduced by Charles F. Stokes; Lewis Stephen Pilcher of Brooklyn, introduced by George E. Brewer; Sir Thomas George Roddick of Montreal, introduced by George E. Armstrong; J. William White of Philadelphia, introduced by Edward Martin.

The president then conferred the honorary fellowships.

Following the fellowship address by Dr. Edward H. Bradford,

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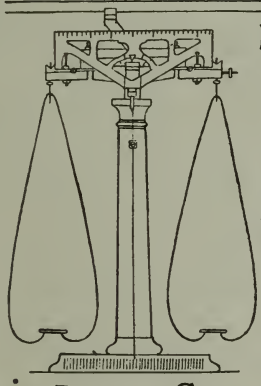

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Dean of Harvard University Medical School, there was an informal reception by the officers of the college to the fellows and guests.

THE HIGHER EDUCATION IN SURGERY.

By Edward H. Bradford, M.D., F.A.C.S., Boston.

FELLOWSHIP ADDRESS.

THE American College of Surgeons has shown such remarkable vigor in its development that there is every reason to believe that it will become a most important agency in the advancement of American surgery. It may therefore be proper to call to your attention a few suggestions for the consideration of this organization relating to better education and training of our surgeons.

It has been said by those who undertake to study the American people that the typical American, although energetic, resourceful and venturesome, lacks a knowledge of fundamentals. He has the defects as well as the virtues of the pioneer. Are these traits characteristic of the American surgeon? If they are, the fact should be reckoned with in our plans for the training and education of our surgeons. We should foster the energy of the pioneer and give to him the fundamental knowledge needed by a master.

In the early days the aspirant in surgery became the student of the nearest active practitioner to whom he could attach himself. He was an articled assistant. After a while he ventured upon practice alone, and in the rough school of experience, competition and emergency he developed force. Later, groups of forceful men associated themselves together and formed proprietary schools, and the country was filled with energetic aspirants in surgery.

There are advantages in this system of education in a large, new and unsettled country—the training fits the locality. It does not, however, tend to develop thoroughness or scholarship.

The European method of educating surgeons was to collect students in the large cities, where they were taught by learned men the fundamentals of knowledge in medicine and surgery. They learned anatomy and were stimulated by watching the great surgeons at work in their hospitals. Besides learning the essential principles, they acquired high standards.

The product of the American system of educating surgeons has been excellent. There have been developed some remarkable men and as alert and resourceful a body of skilled surgeons as can be found in any country. But can we claim to have produced many of those who have done most to influence the surgical thought of the world? We developed Ephraim McDowell, but we have yet to produce a Lister.

In this connection it is interesting to reflect upon how much more America, a professedly peaceful country, has done to revolutionize the science and art of war than the humane art of surgery. The advance in open order, field entrenchment for the attacking army, the use of cavalry in long raids on the enemy's lines and as mounted infantry, improved implements of war, the rifle, the automatic pistol, the Hotchkiss gun, and in naval warfare, the ironclad, lateral shell firing, the torpedo, the mine, the submarine—all are products of American invention, or first shown to be of value by American example. The field telegraph, the heliograph, the tele-

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Medical Director

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phone and the American invention, the flying machines, have revolutionized war. During the same period surgery has been revolutionized, but how much can we justly claim that America has contributed to the marvelous changes wrought in the last 50 years? * * *

Our medical schools today have, thanks to the energy of our medical profession and the influence of the American Medical Association, been brought to a standard state of efficiency, and no medical student can become a practitioner who has not received a proper knowledge of the fundamental sciences. When he reaches the stage of practice he should know how to use his knowledge on lines of trained reasoning, or appreciate the arguments of those who do.

If the graduate desires to practice surgery, he should be trained as a dresser and should, after finishing his medical education, have opportunities for technical training in surgery by service in hospitals that need properly qualified assistants in surgery and residents.

The hospital should do more than give positions to young men who help in the surgical work of the hospital; they should arrange for their careful training in surgery.

Endowed hospitals today should not be content to care merely for the sick in their wards; they should aid in the combat with disease. There should be connected with every hospital not only nursing and operating facilities, but also agencies for determining the ultimate results of operative procedures. The hospital should be a clinical laboratory for the acquisition of knowledge relating to the surgical care of those surgically afflicted. A proper valuation of surgical methods is essential, and for this terminal results must be tabulated. This can be done by efficient organization; it cannot be properly done by the desultory efforts of a few energetic surgeons.

Research and animal experimentation are aids, but experiment being impossible in the human animal, sound generalization is only possible when based upon a large number of carefully recorded cases collected in large hospitals and studied by a number of trained observers. This is the proper work of hospitals, and they should be rated according to their efficiency in such work.

From hospital residency the young surgeon can develop further as a junior associate to a broad master in surgery, who should encourage such association and should promote individual effort and independent thinking of the properly trained who seek to advance themselves to mastership by thorough preparation and carefully considered experience.

Much work by an association like this is needed to promote a proper knowledge in the community of the need of co-operation of hospitals in the work of the development and education of surgeons. It is not only in the arrangement for dressers and residents that this is needed, but also in a suitable arrangement of the services of attending surgeons, that it may be possible to utilize the experience gained for the benefit of the science of surgery. Short services, interrupted services, services so arranged that generalization in regard to methods is difficult, if not impossible, are too frequently provided for in hospital organization. The surgeon spends his energies centering his attention upon individual cases, presenting few surgical problems, and is unable to devote his time to the larger problems of the treatment of disease in general. The

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younger surgeon may be perfectly competent to take care of the individual case, but the surgeon of experience with various methods should be given an opportunity to direct the treatment and to determine the value of improved methods. In many cases this causes disarrangement of existing hospital services, but where the authorities are aware of the need of such changes they can be brought about to the benefit of surgical science.

The road to the leadership in surgery is a long one. If "art is long," surgery is longer. It may take but little time to teach a man to play the violin, but for a virtuoso—a Kreisler—years are needed, but how much more is required to develop a Mayo, a Kocher!

How much can our societies aid in the better education of surgeons?

The only real education is self-education. This is helped by opportunities of comparison with others; the discussions of colleagues reveal individual strength and weakness.

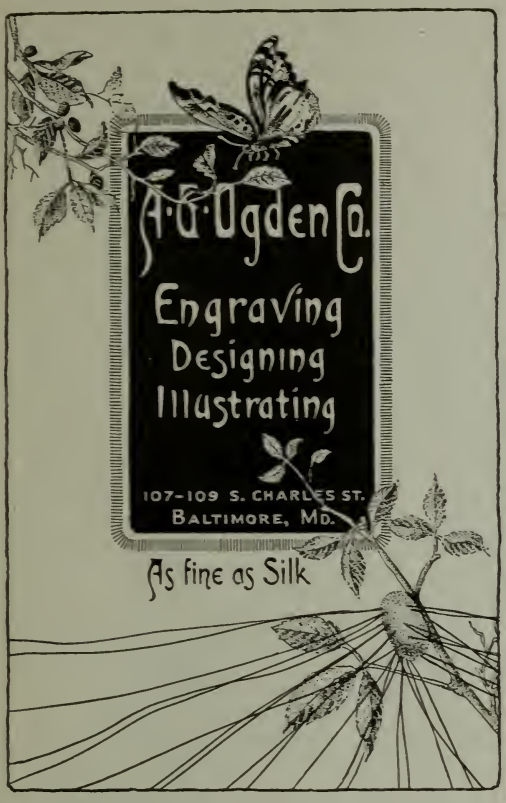
Surgical societies should be organized so as to promote the careful study of surgical problems, the value of methods, a proper standardization of treatment, and should discourage the exploitation of individual success. Little benefit could come from a meeting of Jack Horners, though a discussion among them might furnish entertainment. Co-operative work among surgical societies would be of great value in the direction of study, the promotion of interest and in the elevation of standards.

A more difficult matter suggests itself in the question of the bestowal of proper degrees and titles. The public has become trained with more or less accuracy to distinguish between the incompetent and proficient in music. Would it not be well if there could be some accepted standards of recognition of the trained and judicious in surgery, as compared with those whose qualities are chiefly energy and boldness, driving forward an untrained mind—who are, in short, surgical adventurers? Masterly skill in surgery is not a quality easily recognized by the public. The death rate was formerly a check to the injudicious surgeon; today, thanks to asepsis, there should be no death rate, and it is hard to follow the trail of failure among the convalescents who rejoice in a recovery from what has seemed to them the jaws of death, nursing their impaired activities with satisfaction in the thought of what might have been and what they think they have escaped from. * * *

American surgery will be advanced if there are developed in this large country of ours several foci where the art of surgery is practiced and taught in the highest degree of excellence. It is a great satisfaction to the observer to see, already, centers developed where the work is worthy of the careful consideration of the leading surgeons of the world. An increase in the number of these places where the science of surgery is investigated and the art of surgery efficiently practiced cannot fail to produce results which will, in time, claim leadership in surgical thought.

A few words only are needed in regard to the question of what may be termed surgical ethics, a subject which cannot be ignored by an association like the American College of Surgeons, which is to maintain the standards of our profession.

If it is borne in mind the great opportunity which exists for the gross misuse of the power the surgeon holds it might seem extraordinary that so little of gross commercialism or base malpractice



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exists. The surgeon at the head of a small private hospital has power greater than that of a czar. Under an organization trained by himself, with no one but his attendants to criticise his activities, he wields a power controlled only by his conscience and his higher instincts. It may be said that in the process of his education and in contact with his fellow-men no one can rise to eminence in surgery without an education which elevates him from the baser temptations which are more potent in other callings. It certainly is true that in this commercial age medicine and surgery are less commercialized than any of the other large human activities. Michiavelli, the great thinker of the period of the Renaissance, held up the standard of the ideal prince whose craft and deceit were regarded as the proper functions of the ruler and statesman, but we have no evidence that the surgeons of that time were other than truthful and honest.

Today the philosophy of the superman, that might makes right, will never find acceptance in our profession. As the soldier must have courage, and the priest and clergyman purity, the surgeon must be human.

It cannot, however, be ignored that the danger of lowering the standards among young and ambitious surgeons, eager for the renown and emolument of a large practice, is something which must be considered by an organization like the American College of Surgeons. There can be no compromise in this matter. Anyone practicing the art and science of surgery who is unmindful of the high responsibilities and duties of his profession should receive immediately the condemnation of his fellows. The true surgeon should be, like Caesar's wife, "above suspicion;" he must be above reproach.

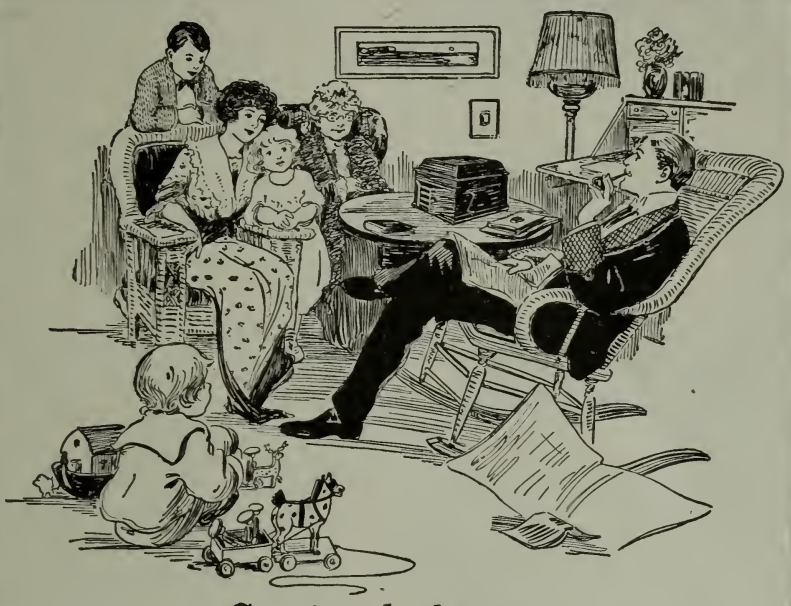
It can be said that the occasion is ripe for the higher development of surgery in America. How long the present Balkanization of Europe is to continue, and how much chaos is to result, no one can tell, but it is certain that the Mexicanization of North America will stop at the Rio Grande. If we have peace, we have also the responsibilities which come with the blessings of peace, and these are to be regarded as held by us in trust for the benefit of the human race. * * *

Modern surgery may be said to have begun in France over 100 years ago through the leadership of a brilliant group of surgeons, who were followed by an illustrious school of British surgeons. Then came the wonderful rise of German surgery to which we are all such debtors. Are we to remain followers, provincials, notable chiefly for our ability to adopt the example and teaching of others?

In the literature of our art there are names before which we all do reverence—Dupuytren, Larry, Nelaton, Brodie, Paget, Lister, von Langenbeck, Billroth, Volkmann. They were thought-compelling masters who shaped the surgical science of a century.

What names are to be written now upon the open book of the history of surgery? Is there not a page ready for the names of great Americans who will give to the noble art of surgery a luster never known before?

It is the proud function of the American College of Surgeons to aid in the advancement of the higher education in surgery. The American surgeon will never lack skill, energy, nor resourcefulness; to these must be added wisdom.



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This fraud, which was exposed at an action tried before the Supreme Court of Victoria at Melbourne, and others reported before in the medical literature, show that every physician should see that his patient gets exactly what he prescribed. No "just as good" allowed.

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THERE are few remedial agents which operate with such marked beneficial effect as cod liver oil in the debilitated states of children, but so far as the crude oil is concerned, its unpalatable nature makes it quite impossible of continued use in these little patients. For this reason a cod liver oil product that is not only palatable, but which may be continued for a considerable length of time becomes all the more desirable. Such an agent is to be found in Cord. Ext. Ol. Morrhuae Comp. (Hagee), in which are combined the active therapeutic principles of the oil without its obnoxious properties.

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The well-known researches of Vedder and Rogers have proven the specificity of ipecac in amebiasis; and Alcresta Ipecac, Lilly, overcomes the difficulty surrounding the oral administration of the drug in this disease.

Bass and Johns of New Orleans were the first to advocate Alcresta Ipecac in the treatment of Pyorrhea Alveolaris, shortly after the announcement of Barrett and Smith that a protozoan—Endamebas Buccalis, and perhaps other species of endamebae, was the causative agent in this extremely prevalent malady.

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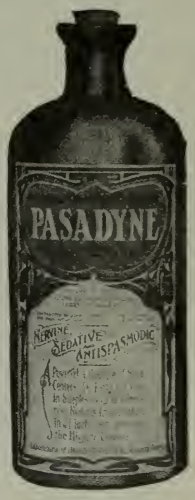

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definite and positive character, Chionia is invaluable in the treatment of these cases that we are prone to speak of as "liver patients." The livers of these people are inactive, their portal circulations are sluggish, and their systems are overloaded with toxic products that have not been thrown off as they are by those in whom the excretory functions of the liver are normally active.

Many of these patients have sought relief from the use of cathartics, laxatives, etc. For a time these measures have seemed effective. But only temporarily, for real hepatic stimulation is seldom thus afforded. A true liver stimulant is needed, and this is why Chionia gives such satisfactory results, for its main, and to a certain extent specific, action is to increase the functional activity of the liver. Chionia can be relied upon, therefore, to correct these conditions due to liver torpor, and, happily, without giving rise to catharsis or upsetting and exhausting the patient in the way that other cholagogues will. In view of the efficiency of Chionia it can easily be understood why so many successful practitioners look upon it as a *"sine qua non"* in the treatment of those who are afflicted with sluggish livers.

A Valuable Local Application.

At this season of the year when sudden and extreme changes are so apt to lead to nose and throat colds, patients should be warned of the necessity of giving the nasal mucous membrane more than ordinary care. A protecting oil possessing antiseptic properties is especially desirable, and Sabalol Spray seems to meet these requirements most satisfactorily. This exceedingly effective local application coats the nasal surfaces, promptly allaying irritation and immediately controlling the growth and activities of any bacteria present. Briefly, Sabalol Spray has a large field of utility, and its extensive use by the physicians of the country speaks in no uncertain way of the estimate placed on its therapeutic efficiency.

Treatment of Persistent Inaccessible Hemorrhage.

Every physician feels the need occasionally of a reliable agent in persistent hemorrhage that is inaccessible to the ordinary modes of treatment. Coagulose meets that want—meets it better, it is believed, than any agent hitherto employed for the control of hemorrhage due to defective coagulation of the blood. Coagulose is prepared in the biological laboratories of Parke, Davis & Co. from normal horse serum. It is administered hypodermatically (subcutaneously).

The directions for preparing Coagulose for use are as follows: Add to the powder in the bulb 6 to 8 Cc. of sterile water, the temperature of which should not be above 98° F. Introduce the water into the bulb through the needle of a 5 Cc. syringe. The rubber stopper should then be replaced and the bulb immediately shaken, continuing the agitation three or four

minutes or until the powder is completely dissolved.

To fill the syringe, invert the bulb and remove the rubber stopper from its mouth. Insert the needle of the syringe into the solution in the inverted bulb and draw the fluid into the syringe.

By inverting the bulb before inserting the needle, one avoids the likelihood of drawing the foam or bubbles (caused by agitating the liquid in the bulb) into the syringe, as the foam will rise to the top of the solution, leaving the field for the insertion of the needle perfectly clear.

The Selection of an Alterative.

THE value of the class of remedies usually described as alteratives is unquestioned, and the main point involved is the selection of one. The facts to be taken under consideration in disposing of this point are degree of therapeutic effectiveness and palatability. The qualities of the ideal alterative are combined in Iodia (Battle) in large measure, for which reason it has acquired a favorable reputation in late syphilis, rheumatism and other states indicating the use of alterative drugs.

Glyco-Thymoline for Colon Flushing.

INACTIVITY of the colon with its retention of fecal matter and consequent distention and interference with the work of the rectum is a prime factor in the causation of hemorrhoids, constipation and, in the event of septic matter in the feces, auto-infection.

The rapid elimination of all septic matter and the promotion of an aseptic condition of the intestinal canal is within the province of Glyco-Thymoline. One pint of a 10 per cent. solution at a temperature of 100° introduced well up into the colon will produce a quick evacuation without pain or discomfort. This, followed by three or four ounces of a 25 per cent. solution at the same temperature, retained, will speedily restore to normal conditions by inducing exosmosis, relieving pain by its anesthetic property and promoting a general aseptic condition by its power of cleansing.

Double Service Tires Give Greatest Mileage

THE best tires in the country in points of service are those made by the *Double Service Tire and Rubber Co.* of Akron, Ohio. These tires are made of the same material that goes into the very finest high grade standard tires but the tread is twice as thick in both fabric and rubber. This thickness does not detract from the riding qualities in any way yet it gives astonishing service and makes the tire practically punctureproof in every way for a tack or similar object cannot penetrate through this quality of material. These tires bear a 7000 miles guarantee but strange to say the prices are about 40% lower than the standard tires. This saving is chiefly brought about by the fact that the tires are sold direct to the auto owner and thereby the costs of commissions is entirely eliminated which makes the low prices possible.

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AND

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The composition of Glyco-Heroin (Smith) is not being changed to meet any of the exemptions or privileges allowed under the so-called "Harrison Anti-Narcotic Law" and whereby it might be sold to the public.

Glyco-Heroin (Smith) will remain just what it always has been and just what it was always intended to be, viz: a stable, uniform and dependable product for the convenience and use of physicians only, in the treatment of Cough, Bronchitis, Whooping Cough, etc.

In prescribing Glyco-Heroin (Smith) use ordinary prescription blanks. Give the name and address of patient, your own name and address in full, your registry number and date when written, (no copy or other record required.)

Prescriptions cannot be refilled

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References

DR. WM. OSLER, Oxford, Eng. DR. JULIUS FRIEDENWALD, Baltimore. DR. WM. S. THAYER, Baltimore.
DR. HENRY M. HURD, Baltimore. DR. NATHAN R. GORTER, Baltimore. DR. J. ALLISON HODGES, Richmond, Va.
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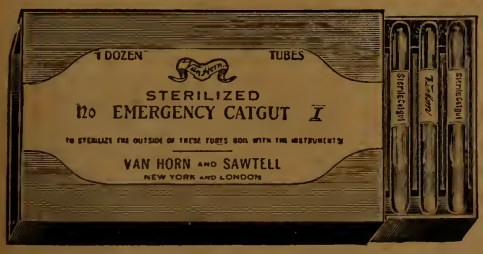
thus assuring your results and avoiding needless waste. These are put up, a 20-inch strand of catgut in each tube: plain, sizes 00, 0, 1, 2 and 3; and in chromicized, 00, 0, 1 and 2.



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Colorless, non-greasy, water-soluble, absolutely non-staining to skin or clothing, and by all means the most cleanly and agreeable of all local applications, "K-Y" is unequalled as a means of controlling itching, allaying irritation and relieving capillary congestion.

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is an exceedingly useful remedy. It stimulates the appetite, promotes food assimilation, and by overcoming constitutional depression, increases vital resistance. Its palatability and clean bitter taste make it unusually acceptable to children. The effects that follow are prompt and positive, convalescence is shortened and the dangers of unpleasant sequelae are reduced to a minimum

The dose should range from one-half to one teaspoonful in water before meals

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A HIGH-GRADE institution for the care and treatment of those suffering from Nervous and Mental Diseases, Alcohol and Drug Addicts and general enfeeblement.

Located in the choicest suburb of the National Capital, surroundings ideal, buildings new, heated by steam, lighted by electricity, licensed by the District of Columbia, inspected and controlled by the Health Department of the City of Washington.

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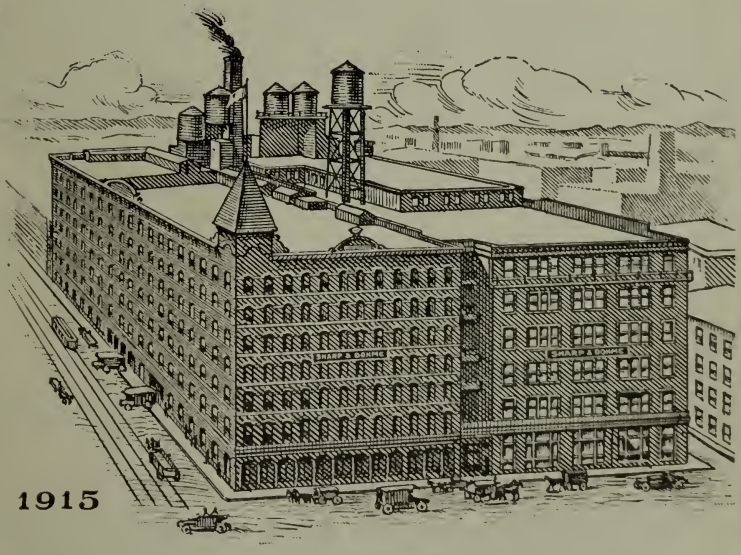

1915

THE OAK

Dr. William S. Thayer of the Johns Hopkins University School of Medicine has been placed on the slate of 18 Harvard alumni for a postal card ballot, the 10 men receiving the highest number of votes to stand for election to the Harvard Board of Overseers on commencement day.

Thirteen graduates of the Training School for Nurses of the Church Home and Infirmary received diplomas at the graduating exercises held at 8 o'clock Wednesday evening, May 12, at the institution on North Broadway. A reception to the class followed the exercises. The members of the class of 1915 are Misses Paula Mattfeldt, Florence Young, Caroline Webb, Martha James, Jennie Sloan, Hazel Price, Mary Anderson, Edna Welty, Elizabeth Daley, Helen Roberts, Mary McHarry, Anna Ruth Metcalf and May Patten.

The engagement is announced of Miss Edith Tilghman Kneedler to Dr. Alexander Randall, Johns Hopkins Medical School, '07, both of Philadelphia. The wedding will take place in Philadelphia, June 2. Dr. Randall was formerly from Annapolis, Md.

The engagement is announced of Miss Marion Eckford De Kay to Dr. Francis Peyton Rous, Johns Hopkins Medical School, '05, both of New York City. The wedding will take place in June. Dr. Rous is a member of the staff of the Rockefeller Institute for Medical Research.

MARRIAGES.

Thomas Marshall West, M.D., University of Maryland Medical School, '08, of Fayetteville, N. C., to Miss Florence D. King, formerly of Howard county, Md., in Washington, May 12, 1915. Mrs. West is a graduate of the University of Maryland Training School for Nurses, class of 1910.

Edwin Baker Goodall, M.D., University of Maryland Medical School, '09, of Haverhill, Mass., to Miss Carrie Hollander of Amesburg, Mass., at Amesburg, April 29, 1915.

Ernest William Frey, M.D., University of Maryland Medical School, '12, to Miss Mary Jeanette Disney, both of Baltimore, Md., at Baltimore, March 22, 1915.

William Robert Gardiner, M.D., University of Maryland Medical School, '10, to Miss MacWalker, both of Herrin, Ill., at Herrin, March 21, 1915. They will reside in Herrin, where Dr. Gardiner is practicing surgery.

DEATHS.

Horace W. Nicholson, M.D., College of Physicians and Surgeons, '06, of Salisbury, Md., formerly of Baltimore, died at the home of his father in Chestertown, Md., after a lingering illness from angina pectoris, April 14, 1915, aged 34 years.

Robert Hoffman, M.D., graduate of Heidelberg University in Germany, for 25 years a physician of Baltimore and widely known as a stomach specialist, died suddenly of heart failure at his home, 1325 Park avenue, April 25, 1915, aged 56 years.

Marshall Langton Price, M.D., University of Maryland Medical School, '02; in 1910 secretary and in 1911 vice-chairman of the Section on Preventive Medicine and Public Health of the American Medical Association; a member of the American Public Health Association; medical officer of the Tuberculosis Commission of Maryland from 1903 to 1905; secretary of the Maryland State Board of Health from 1907 to 1913; member of the Maryland-District of Columbia Sewerage Commission in 1912; originator of the first law for the State control of tuberculosis, now in effect in many States of the Union and known as the "Maryland System," who moved from Baltimore in 1914 on account of ill-health to Boise, Idaho, died at sea on board the American Line steamer St. Paul, April 16, 1915, presumably from tuberculosis, and was buried at sea the next day, aged 37 years.

R. Sydney Cauthen, M.D., Baltimore Medical College, '02, a Fellow of the American Medical Association, a specialist on diseases of the eye, ear, nose and throat, of Charlotte, N. C., died at his home in Charlotte, March 24, 1915, from heart disease, aged 43 years.

Charles Ellsworth Boyd, M.D., Baltimore Medical College, '02; University of Wooster, Cleveland, 1892; a Fellow of the American Medical Association, died at his home in Newton, Iowa, February 27, 1915, from pneumonia, aged 45 years.

Edward G. Altvater, M.D., University of Maryland Medical School, '11, of 323 N. Carrollton avenue, a physician at the United States Quarantine, died May 2, 1915, at the University Hospital, following an operation, aged 30 years.

William Joseph Dougherty, M.D., Baltimore Medical College, '07, of Beverly Farms, Mass., died at the home of his mother in that place, April 6, 1915, aged 33 years.

SYRUPUS HYPOPHOSPHITUM FELLOWS

One of the most efficient, most complete, and best all-round Tonics in the Materia Medica!

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SAN FRANCISCO MEETING.

I have received a number of letters of inquiry from physicians who will attend the forthcoming meeting of the American Medical Association. They have asked about transportation, Pullman rates, hotel accommodations, side trips, etc. I submit herewith three special plans which are being patronized, viz.: (1) The Gregory Tours, (2) The McCann Tours, (3) The Pennsylvania Railroad Tours. There may be others, but these are the only ones of which I have knowledge.

The Chicago Medical Society is accepting the services of the Gregory Tours. It leaves Chicago June 17 via Chicago & Rock Island Railroad to Colorado Springs, and from there over the "Scenic Route," arriving at San Francisco June 21. The return route may be made over any road you desire. The Gregory Tours will route you over other roads if you prefer. The plan of the Chicago Medical Society is as follows:

First-class railroad ticket to San Francisco, Los Angeles, San Diego and return.

Railroad tickets good for 90 days.

Pullman standard sleeper to San Francisco, giving an entire section to two persons.

If two persons occupy one berth, there is a *reduction* of $10 on the two tours.

Transfer of member and checked baggage to and from hotel at San Francisco.

Seven consecutive days at the Hotel Plaza or Bellevue in San Francisco (only two in double room), including seven breakfasts.

Seventy-five per cent. of rooms with private bath, those making first reservations having first choice.

Seven admissions to Panama-Pacific International Exposition.

Admission to 20 attractions within the Exposition Grounds.

"Trip to Chinatown," with guide escort.

Steamer trip (four hours), San Francisco Bay, viewing the Golden Gate and Exposition Grounds.

Key trolley trip (seven hours) through Oakland, Alameda and Berkeley, visiting the University of California, famous Greek Theater and Idora Park.

Trip to Mt. Tamalpais (eight hours) on the "Crookedest Railroad in the World."

The total expense of this tour as outlined is as follows: Tour "A,", Plaza or Bellevue hotels—Chicago, $141; St. Louis, $135; $17.50 extra railroad fare to return via Northern route.

To those who buy their own railroad ticket and want accommodations at San Francisco June 21-28, including all features as outlined above, the price will be $65.50. Rates from different railroad points will be furnished on request.

Each reservation must be accompanied by a deposit of $10, and $10 additional in 30 days, same to be retained by Gregory Tours as "reservation rights" payments. Balance to be paid 30 days before departure.

Make all checks payable to Gregory Tours Co., Lytton Building,

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Between Steel Pier and New Garden Pier

Thoroughly modern and completely equipped. Courteous service. Bathrooms with hot and cold, fresh and sea water attachment. Orchestra. Extensive porches overlooking the Boardwalk. Always open. Golf privileges.

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PHENALGIN

No matter how severe or where located pain is promptly and satisfactorily controlled by this effective anodyne—and without disturbing the digestion, suppressing the secretion, causing constipation or inducing a drug habit.

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To thousands of physicians Phenalgin "is the one dependable analgesic—the logical supplanter of opium".

Specify "Phenalgin Pink Top Capsules".

Samples and interesting information on request

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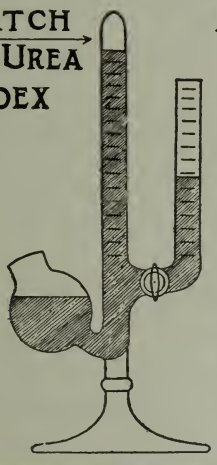
WATCH the UREA INDEX



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Chicago, sending same to Dr. R. R. Ferguson, 3923 N. Keeler avenue, Chicago, who has charge of reservations.

TOUR SYSTEMS OF THE PENNSYLVANIA RAILROAD.

This tour system is being operated in the interest of the Pan-American Medical Congress, which meets in San Francisco, June 17-21; also the American Medical Association meeting, which follows immediately thereafter. The following is an announcement which I received:

Cost of Trip.

The fares given below cover round-trip to San Francisco, going on special train as indicated and returning via direct routes; Pullman accommodations (one double berth) from starting point to San Francisco. All meals in dining car will be on the a la carte basis, and will be at individual expense.

New York, N. Y., $128.40.
Philadelphia, Pa., $123.30.
Baltimore, Md., $116.05.
Washington, D. C., $116.05.
Harrisburg, Pa., $113.65.
East Liberty, Pa., $102.55.
Proportionate rates from other points.
Extra charge for drawing-rooms and compartments.
Over and above regular Pullman berth charge.
One person in drawing-room, $45.
Two persons in drawing-room (each), $13.50.
Three persons in drawing-room (each), $3.
One person in compartment, $32.50.
Two persons in compartment (each), $7.25.
One person occupying whole section, $14.40.

Two railroad tickets will be required for the exclusive use of a drawing-room and one and one-half tickets for the exclusive use of a compartment.

For additional information and booking on either the "Pan-American Medical Special" or the "American Medical Association," application should be made to Dr. H. L. E. Johnson, chairman Transportation Committee, Pan-American Medical Congress, 1821 Jefferson Place N. W., Washington, D. C.

MC CANN TOURS.

The following is from the *Journal of the American Medical Association:*

"*New York and New England Special.*—This train will be under the management of McCann's Tours. The itinerary is planned to provide a fast schedule over an interesting route for the outward trip, leaving Eastern points as late as the afternoon and evening of June 16 and getting to San Francisco on Sunday evening, June 20. The return trip will be made in a leisurely manner over an interesting scenic route, including a trip from San Francisco to Portland by way of the Shasta line. Stops will be made at Portland, Seattle and Spokane, and a five-day trip through the Glacier National Park is planned. The itinerary, as has been noted, contemplates leaving New York at 2 P. M. June 16 over the New York Central lines, thence by way of the Chicago, Milwaukee & St. Paul, the Union Pacific and Southern Pacific to San Francisco, where the party will stop from Monday,

A Temporary Diet for Infants in Summer Diarrhea

Mellin's Food
4 level tablespoonfuls

Water (boiled, then cooled)
16 fluidounces

Each ounce of this mixture has a food value of 6.2 calories—affording sufficient nourishment and in a form readily assimilable.

INDEX

TO

Medical Advertisements

PAGE II

June 21, to Friday, June 25, leaving San Francisco at 8 P. M. on the last-named day. From Wednesday, June 30, to Sunday, July 4, the party will be in Glacier National Park, returning to New York on Thursday, July 8.

"Those who do not find time or are not disposed to return by the route indicated may arrange to take the special train to San Francisco and to return within three months after the date of starting by an authorized route selected."

I suggest that you make your reservations now if you have not already done so.

Very truly yours,

J. Rawson Pennington, M.D.,

Chairman Committee on Transportation and Place of Session.

EPIDEMICS IN SERBIA.

The most appalling accounts have been received of the prevalence of typhus and spotted fever and dysentery in Serbia, and the deaths, which from typhus fever alone are said to number more than 50,000, include those of many doctors and nurses connected with the foreign Red Cross units. The Serbians assert that typhus was introduced by Austrian prisoners of war, who have been allowed to roam about the country, and spread vermin which conveys the germs. Unless speedily brought under control, it is feared the epidemics may spread throughout Europe. The Red Cross has furnished $50,000 for the fight to suppress typhus fever, and a commission composed of Dr. Richard P. Strong, professor of tropical medicine at Harvard University, and several other well-known doctors has been sent to the stricken country.

THE HOSPITAL AT THE PANAMA-PACIFIC EXPOSITION.

The hospital at the Panama-Pacific Exposition, San Francisco, is so complete in detail that it is attracting much attention and will be of more than passing interest to all physicians and nurses visiting the Exposition. It is supplied with the most up-to-date apparatus, which has been donated or loaned by the manufacturers, and has on hand much medical literature. The hospital was opened a little more than a year ago, so as to care for injured employes, but will now also care for any visitor needing medical aid.

This hospital, which is in charge of Surgeon R. M. Woodward of the U. U. Public Health Service, is located in the Service Building, and can accommodate 15 patients at one time.

Editorial Comment.

SURGERY OF THE KNEE-JOINT

Edred M. Corner, London, England (*Journal A. M. A.*, Sept. 26, 1914), speaks of the dangers generally of what he calls cavity-less surgery when bleeding occurs and then passes on to surgery of the knee-joint. The main principles to be carried out, if

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AFFORDS PROMPT RELIEF IN ALL CATARRHAL DISEASES REACHED BY LOCAL APPLICATION

Pharyngitis, Laryngitis, Hay Fever, Acute Coryza, Rhinitis, Ozena and Inflamed Mucous Membrane in All Parts of the Body

Laryngologists find SABALOL SPRAY invaluable in the treatment of the throats of actors, singers and speakers

IF UNACQUAINTED, SEND FOR SAMPLE

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Liquid Pi-cine Co., Red Syr. Hypophosphites Co.,

Compound Salol Capsules.

THOMAS & THOMPSON CO.

Manufacturers and Dispensers of Pure Medicines (Wholesale and Retail)

Cor. Baltimore and Light Sts., Baltimore, Md.

PRUNOIDS An exceptionally efficient laxative that produces its effects by stimulating and promoting. physiologic processes of the intestines without exciting excessive peristalsis.

Employed with conspicuous results in **Chronic Constipation,** since Prunoids do not cause griping nor reactionary constipation.

DOSE---One to three tablets at bedtime as required.

SENG An aromatic preparation of **Panax (Ginseng)** of well proven utility for stimulating the secretory glands of the stomach and duodenum.

Successfully administered in **Functional Digestive Disorders, During Convalescence,** and whenever the flow of the gastro-intestinal fluids is retarded or deficient.

DOSE---One to two teaspoonfuls shortly before or during each meal.

CACTINA PILLETS A true cardiac tonic prepared from Cereus Grandiflorus.

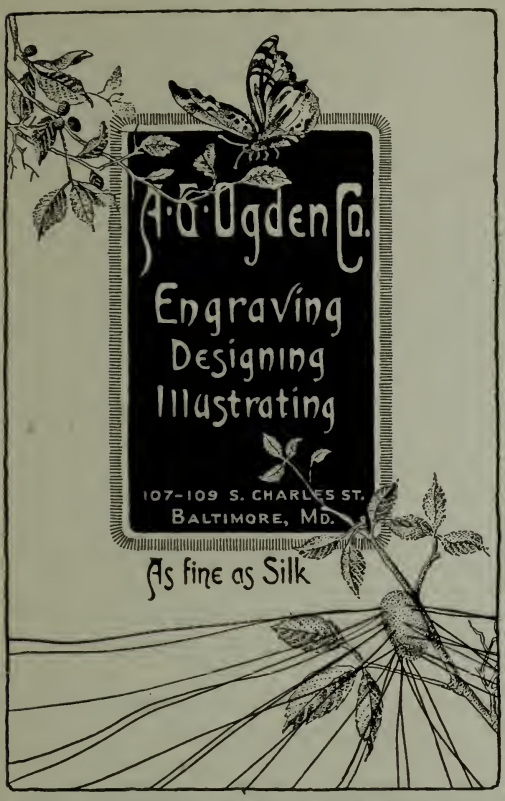
Useful and effective in **Tachycardia, Palpitation, Tobacco Heart, Arrhythmia,** and all **Functional Diseases of the Heart** where the heart's action needs supporting, strengthening or regulating.

DOSE---One to three Pillets three times a day.

SULTAN DRUG COMPANY, St. Louis, Mo.

possible, are to plan the incision into the knee so that it gives the maximum exposure, access to the back of the joint and the minimum of hemorrhage and of injury to important parts. He condemns the horseshoe incision often used when the patellar ligament is severed, though he admits that if the skin incision is made to pass below that, it may deserve better consideration. Transverse incisions in front of the joint are second best, and he speaks well of the longitudinal one down through the middle of the patella. The pathologic states of the knee are reviewed.

Two facts are noticeable. One is the lessened number of operations for tuberculosis and the other is the large and steady increase of operations for "internal derangements." He describes the distribution of the ligaments and says that the crucial ones are the strongest and the ones most liable to injury. There are clinical signs which indicate such injuries. These are: movement of the tibia on the femur and its dropping back, or any rotation of the tibia on the femur, almost always external. The leg must be carefully compared with that of the other side, but in an old case the above signs may not appear and the most valuable symptom is the complaint of lack of stability in joint and what is well-known clinically as slipping knee. The crucial ligaments are most prone to injury in exaggerated flexion or extension of the leg. The semilunar cartilages are most strained from movements of rotation with semiflexed joint. The bony attachments also bear a strain and may suffer. The synovial membrane is loosely attached around the front of the knee, but is closely attached to the knee where it covers the crucial ligaments and at the back of the joint, where slight injury may tear it and cause synovitis. As regards loose bodies in the joint, the clinical reports indicate six points; The rarity of learning the origin of these bodies; their frequent multiplicity; the frequency with which they are called recurrent; how often they consist of fibrin; how often they are temporarily lost in the joint and apparently how long they can be present without causing any symptoms. Corner suggests that the majority of loose bodies have an origin in the tear of the synovial membrane in the back part of the joint which ought to be more frequently explored. To do this he would urge the use of the method of opening the joint by splitting the patella sagitally, and he gives the anatomic reasons for this recommendation. He also describes the method of suturing the wound and says suture without drainage is best, and if drainage becomes necessary it can be provided two days later through the popliteal space. In all cases with fever this space should be examined at every dressing and compared as regards fulness with that of the other leg, as pus is liable to accumulate here. He recommends shortening for crucial ligaments, if they are stretched or loose, by drilling through the external condyle and the ligament itself. The operation of removing a semilunar cartilage is done by him by splitting the patella longitudinally. If the case merely demands the removal of a dislocated cartilage or loose body which can be felt, a local incision is better. The proper treatment for an intra-articular fracture of the femur is, he thinks, to stitch the fragment in place rather than remove it. In fracture of the spine of



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the tibia he would also anchor it instead of removing it. He is an advocate of operation for all these injuries and would counsel it early in joint injuries and leave no bleeding behind in the joint.

RESUSCITATION FROM MINE GASES

The Report of the Committee on Resuscitation from Mine Gases, appointed by the Council on Health and Public Instruction of the American Medical Association at the request of the Bureau of Mines of the Department of the Interior, has just been published by the Bureau. It is designated Technical Paper No. 77, and can be obtained by sending 5 cents to the Superintendent of Documents, Government Printing Office, Washington, D. C.

"The committee reports," as stated editorially in *The Journal of the American Medical Association* for September 26, "that it has visited mines in the bituminous and anthracite coal regions of Pennsylvania, has met and talked with men of wide practical experience, witnessed demonstrations of artificial respiration by different methods and examined them critically, studied all the available mechanical devices for maintaining breathing and carried on a considerable amount of experimental investigation into the best methods of resuscitation following the inspiration of mine gases."

The report reviews the physiology and pathology of carbon monoxid poisoning, discusses the Sylvester and Shäfer methods of artificial respiration and, following the course laid out in the previous report on resuscitation from electrical shock, strongly recommends the Schäfer method on account of greater simplicity and case of performance, absence of trouble from the tongue blocking the air passage, lessened danger of injuring the liver or breaking the ribs and larger ventilation of the lungs. The first three of these advantages were apparent. On the fourth point, larger ventilation, the commission instituted a series of experiments both on men and animals which convinced the committee that the prone pressure method of Schäfer is the most effective means of artificial respiration.

Summing up its experience and findings, the committee recommends artificial respiration in all cases of gas poisoning and, as mechanical devices are seldom at hand, manual methods are recommended for first aid. Of these the prone pressure method is recommended unless the patient is suffering from some local wound which makes this impossible, in which case the Sylvester method may be substituted. In all cases of carbon monoxid poisoning, oxygen should be given instead of air. If the victim is still breathing spontaneously, oxygen may be given by fastening to the face a mask provided with outlet valve and an inlet valve, connected with a bag provided with oxygen from a cylinder. The Meltzer apparatus, described in *The Journal of the American Medical Association* for May 10, 1913, is recommended as the best of the mechanical devices available.

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This fraud, which was exposed at an action tried before the Supreme Court of Victoria at Melbourne, and others reported before in the medical literature, show that every physician should see that his patient gets exactly what he prescribed. No "just as good" allowed.

Acute and Chronic Nasal and Nasopharyngeal Affections.

SINCE in the treatment of both acute and chronic catarrhal affections of the nasal and nasopharyngeal passages success is invariably contingent on the complete removal of all such materials as tend to injure the mucous membrane or hinder its secretory activity, it follows that the value of the remedial agent employed must be in exact proportion to its detersive, antiseptic and inflammation-allaying potency.

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The use of Silvol is suggested in the treatment of acute gonorrhea and inflammatory affections of the eye, ear, nose, throat, vagina, etc. The product is supplied in bottles containing one ounce and in 6-grain capsules (bottles of 50). It is non-irritating and non-toxic in proper solutions.

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In this issue of the Journal will be found an advertisement of the Chevy Chase Sanatorium of Washington, which we are pleased to record among our list of up-to-date sanatoriums.

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INASMUCH as BROMIDIA (Battle) has no opiate content whatever, it is not necessary to make use of the conditions of the Harrison Act in prescribing it. In using BROMIDIA (Battle) the physician can order it just as he always has done. In this connection we may add that by means of BROMIDIA (Battle) the physician is enabled to secure a well-balanced and carefully-compounded bromide preparation possessing marked advantages over one extemporaneously prepared.

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INASMUCH as all too many excellent soporific agents unfortunately produce evil effects in connection with their tranquilizing influence, the exceptional value of one which is free from bad qualities will be readily appreciated by all practitioners. It is this appreciation of therapeutic merit which has brought PASADYNE (Daniel) into such wide use in relief of sleeplessness, nervous irritability and even pain. As is well known, PASADYNE is the Concentrated Tincture of Passiflora Incarnata, the advantages of which have been known by a large part of the profession for many years. By employing PASADYNE (Daniel) one may secure full soporific power without distressing after-effects. It has no concern with the Harrison Act.

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WHY WE SHOULD HAVE A WAR AGAINST CANCER.

From the Commission on Cancer of the Medical Society of the State of Pennsylvania.

It is a fact that cancer kills about 75,000 people in the United States every year. Any disease which causes such a high annual toll should command the careful attention of the Government, the medical profession, and the people. The need for this careful attention is all the more imperative if both the morbidity and mortality can be very largely reduced by co-operation on the part of these three forces, i. e., the Government, its people, and their physicians.

The reduction that has been caused in tuberculosis is now a matter of history. There can be no doubt that similar well-directed and persistent activity would cause a similar effect in cancer.

The key to the reduction of cancer mortality lies precisely in this: That cancer always begins as a purely local disease involving a strictly limited area. Second, that this limited area is accessible in about four-fifths of all cases; and third, and most important, a commencing cancer practically always indicates its presence when it is still in its early, locally limited and permanently curable stage. In other words, the enemy that we have to fight is not the cancer, but the delay. Nearly 60,000 of our people die every year, not because they have cancer, but because they have waited till the cancer became incurable.

The causes for delay are, first, that the people know little or nothing about cancer. The layman or laywoman does not know that certain evident signs and symptoms mean that cancer is insidiously creeping on them and will be fatal unless recognized and checked in time. So that a large proportion of our 60,000 unnecessary cancer deaths occur because the people do not know. If a woman has a right to kill another human being to save her own life when attacked, how much more has she the right to know that a fatal disease has begun its attack on her? A woman who loses her life at forty simply because she never knew that irregular vaginal bleedings indicated the presence of a cancer while it was in its early curable stage certainly has not had her fair chance at the hands of civilization. If our people are dying because they no not know, we, the doctors, much teach them. We must teach women that a lump in the breast, no matter how small or how painless, may be the starting point of a serious condition and must at once be investigated by a competent physician. We must teach women that irregular vaginal bleeding, the onset of a discharge, etc., may be early warning symptoms of cancer of the uterus. We must teach all people that a mole or a wart which begins to grow, bleed, or ulcerate, is a danger sign that must be heeded at once. There are similar early signs in other portions of the body that may forewarn people, and of which they should have accurate knowledge.

There is also a great field in the conditions marked by chronic irritation and the so-called precancer lesions. Recent statistics show that in about 40 per cent. of cases the cancer, the malignant disease, was preceded by long-continued simple diseases or by some form of chronic irritation. In other words, a large proportion of cancerous people need not have had the disease at all if

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they had been forewarned and had their precancerous condition cured.

The second great problem lies with us as medical men. Are we as active in the treatment of precancerous diseases as we should be, or do we only too often put our patients off with some placebo and advise them not to worry? Do we always insist on a thorough examination when a patient comes to us with symptoms that may mean cancer? When an early cancer is present, do we always lay proper emphasis on the necessity for proper treatment at once? Do we not too often advise the one course which can yield to disaster and tell our patients to wait and see what develops, i. e., wait till the cancer becomes inoperable? Unfortunately at the present time these questions must be answered to our disadvantage. A recent extensive investigation has shown that on an average the family physician has had his cases of cancer under observation for about a year before they come to a real attempt to cure the disease. Our attitude to cancer needs to undergo a radical change. The average of one year's observation must be cut down to a few weeks, or, best, to a few days. Immediate attention to the precancerous condition, counsel in the doubtful cases, and immediate action in the positive cases, is the only proper service we can give our patients. To do this we need a campaign amongst ourselves, too. A new and more efficient spirit must be created which will result in constant watchfulness to keep our patients from swelling the thousands of untimely and unnecessary deaths from cancer.

To arouse the profession fully to the necessities in the war against cancer, a movement has been started by which, during the present few months, State and county societies all over the country are devoting special meetings to the study of cancer, and in addition the vast combined influence of American medical journalism has been enlisted, and the ——— has united with ——— other medical journals to provide for its readers special cancer numbers. It would seem from the number of journals co-operating that the message must be brought directly to every medical man. We are sure that in this way the interest of the medical profession will be aroused for years to come, and we are sure that the time will be soon at hand when no blame for participation in the fatal delay can ever be laid at the door of an American physician.

CANCER OF THE BREAST.

Carl Beck, Chicago (*Journal A. M. A.*, May 22, 1915), recommends a more extensive operation than has been used in cases of extensive recurrent and hopeless cancer of the breast. The only thing generally thought best to do is to apply Roentgen rays or Coley's fluid and morphin. In the course of the last few years he has been able to save a few such cases by the operation of exarticulation of the whole shoulder girdle, including the clavicle, arm and scapula, with the plexus and vessels of the infected side, and the ribs, should they seem invaded by the carcinoma. This method may have been used elsewhere, but the procedure is not common, and its publication may be of value. A definite plan cannot be prescribed in detail. The individual case must be considered. It is a delicate as well as an extensive operation, and attended with great shock to a person who is not often in the best

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in
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For Infants of any age

Mellin's Food
4 level tablespoonfuls
Water (boiled, then cooled)
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Give one to three ounces every hour or two, according to the age of the baby, continuing until stools lessen in number and improve in character.

Milk, preferably skimmed, may then be substituted for water—one ounce each day—until regular proportions of milk and water, adapted to the age of the baby, are reached.

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condition. "On the whole, however, it begins with the formation of a large skin flap destined to cover the whole area of the defect, the exarticulation of the clavicle following, then dissection of the tissues of the neck and axilla in one block, ligation of every vessel as it is reached, cautious cutting on one nerve after the other, and lastly, the separation and excision of the scapula. Altogether, I have done this operation eight times in nine years. All cases were desperate; some of the patients operated on several times by myself or others were all considered inoperable, some of them having consulted the best operators of the country, who declared surgical operations useless." The cases are reported, and two practical recoveries have been obtained, while another patient did well for three years before she was lost sight of. While the results are not ideal, they were good considering the desperate character of the cases, and the most important point of all seems to Beck to be the fact that there is some hope even in these most hopeless cases, when surgery is carried to its limit.

THE CANCER PROBLEM.

By Dr. William Seaman Bainbridge.

Each successive generation has added its quota of theory to the subject of cancer, with now and then a fact to illuminate the situation, while the inauguration of what has been called the era of modern or scientific cancer research has produced books, brochures, papers and other contributions in disconcerting volume. It has been correspondingly difficult for those not actually taking part in the campaign of research, and even for those who are the real history makers in this line, to keep abreast of the times and to satisfactorily digest the mass of cancer literature.

In the preface to "The Cancer Problem" (The Macmillan Company, New York and London), the author, Dr. William Seaman Bainbridge of New York, says: "With the development of the widespread interest in cancer there has arisen a definite need for a book of ready reference, of convenient size, giving in succinct and available form a summary of knowledge concerning the subject. This is needed by the general practitioner, by the specialist, by the intelligent layman, by the lecturer on health matters; in fact, by all who are definitely interested in questions of health maintenance."

Dr. Bainbridge has succeeded in his undertaking remarkably well. Finding it necessary, as he states, "to touch upon practically every phase of the cancer problem, to state theories, to emphasize facts, to review the work and opinions of those who are qualified to speak with authority, and to maintain throughout an attitude of 'suspended judgment pending proof,'" he has shown skilful discrimination in winnowing the wheat from the chaff, the fact from the fiction.

The fourteen sections, some of which are subdivided into chapters, the final survey called "The Outlook," the general bibliography, the index of authors, and the very full index of subjects, all contain a surprising amount of valuable information concerning this multiplex question.

Practically every class of reader can find within the pages of this book subject-matter to suit his particular needs.

The statistician will find the section on "Statistical Considerations" a book within itself, full of valuable information and a

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careful correlation of facts and figures, instead of the usual compilation which one is accustomed to encounter under the heading. Careful study of this section will dispel much of the alarm created by those who for so long have harped upon the one string of the increase of cancer. It is to be hoped that American statisticians will be stimulated to remove the stigma which some of our foreign confreres have placed upon our methods of collecting data, so that, in future editions of "The Cancer Problem," the author will not be forced to accept the imputations made abroad.

The laboratory workers will find the section under "Histo-Pathology" a condensation of knowledge concerning the minute anatomy and pathology of cancer that must prove of great practical value, particularly as it is supplemented with a large number of histological plates and other illustrations. This section, together with that part of Section I which deals with the "History of Modern Cancer Research" and the section entitled "Cancer Research—A Resumé of the World's Work," will give much valuable data to those who are especially interested in the laboratory and purely experimental phases of the subject.

Just at this time, when not only medical societies, but women's clubs, mothers' congresses, and very nearly every other variety of organization are dabbling in cancer study, the section on the "Campaign of Education" will be found peculiarly pertinent. It is interesting to note that Dr. Bainbridge takes a very conservative stand on this particular question of educating the public with reference to cancer. In addition, the sections on "Prophylaxis," "Institutions for the Care of Cancer Patients," and "The Investigation of Cancer Cures" will give to propagandists much conservative, rational and logical matter which, if properly digested, will augur well for the victim of cancer and for those who, by virtue of age, sex, industrial or other predisposition, are fair subjects for the inroads of this disease.

The clinician, however, is always interested in the vital question, "What can I do for my patients?" Abundant answer to this question is found in the sections on "Clinical Course and Diagnosis" (including a valuable subdivision on "Possible Errors in Diagnosis"); "Non-Surgical Treatment"; "Surgical Treatment" (comprising the subdivisions "General Technic of Surgery as Applied to Cancer" and "Special Technic"), and a practical consideration of "Irremovable Cancer."

After reading Dr. Bainbridge's clear-cut exposition of the entire subject the reader will be in accord, we think, with the closing paragraph of the book: "While it cannot be gainsaid that the cancer problem today is still fraught with perplexity and uncertainty, one indisputable fact stands out in bold relief, serving as both guidepost and danger signal for the present and the future: If cancer be cut out soon enough a permanent cure is effected! This alone is sufficient to warrant the statement that we are 'traveling hopefully.'"

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through its Dairy Division, has been conducting a series of experiments, treating milk at different temperatures and for different lengths of time. According to the report on these experiments in Bulletin 166 of the Bureau of Animal Industry, when milk is pasteurized at 145° F. for 30 minutes the chemical changes are so slight that it is unlikely that the protein (muscle-building element), or the phosphates of lime and magnesia are rendered less digestible than they are in raw milk.

Moreover, from a bacteriological standpoint, pasteurizing at low temperatures is found to be more satisfactory than pasteurizing at high temperatures. According to Bulletins 126 and 161, where low temperatures are used the majority of bacteria that survive are lactic acid organisms, which play an important part in the normal souring of milk. When milk is efficiently pasteurized at high temperatures, the bacteria which survive are largely of the putrefactive kinds, and milk so treated, if kept for any length of time. has a tendency to rot instead of sour. From the standpoint of economy, the technologist of the Dairy Division finds that pasteuring at low temperatures calls for less heat. It is found that it takes about 23½ per cent. less heat to raise milk to the temperature of 145° F. than to a temperature of 165° F. A similar gain is a saving of the ice needed, because it will require 23½ per cent. more refrigeration to cool milk to the shipping point when it is pasteurized at the higher temperature. The Department, therefore, recommends that "When market milk is pasteurized it should be heated to about 145° Fahr., and held at that temperature for 30 minutes."

THE REMOVAL FROM THE ESOPHAGUS OF A PLATE OF FALSE TEETH EMBEDDED FOR EIGHTEEN YEARS, BY MEANS OF ESOPHAGOSCOPE.

Dr. D. Braden Kyle, Philadelphia.

Paper read at the Thirty-fifth Annual Congress of American Laryngological Association, held May 5, 6 and 7, 1913, in Washington, D. C.

This foreign body which I present was very difficult to locate, in spite of its size and shape, on account of the granulation tissue which had organized into fibrous tissue, together with the curvature of the spine, as the X-ray picture shows. The patient swallowed the upper suction plate with four front teeth attached while sleeping. The plate lodged in his throat, and a physician who was called in wished to push it down into the stomach, to which the patient objected. He then went to a hospital, where, after the passage of several instruments, he was assured that he had never swallowed the plate, or that it was no longer in the esophagus. For a few weeks after the patient felt slight pain in the lower part of the neck at the point he always felt that the object had lodged. After that time there was no sensation, but swallowing has always been difficult. The Kahler esophagoscope was used, and many attempts were made before this foreign body was successfully removed. By loosening the plate from the fibrous bed by setting up slight inflammatory action and then waiting a few days, the plate was removed without much ulceration of the structure.

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PHYSICIANS who receive that interesting little journal *Therapeutic Notes*, published bimonthly by Parke, Davis & Co., will find in the current issue a postcard authorizing the recipient to send for a free cake of Germicidal Soap, P., D. & Co. The writer of this paragraph hopes there will be a general acceptance of the invitation. Take advantage of the offer—send in the card—for Germicidal Soap, P., D. & Co., is no ordinary soap, no ordinary germicide.

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sues. This soap does not attack steel or nickeled instruments or utensils, as many antiseptics do.

Germicidal Soap, P., D. & Co., is useful for sterilizing hands, instruments, and site of operation; also for lubricating sounds, specula, etc. It serves well as a disinfectant wash after attendance upon communicable diseases, also in certain surface lesions attended with fetid discharge and skin infections of parasitic origin.

Many physicians direct the use of Germicidal Soap, P., D. & Co., for cleansing minor wounds, as a deodorant in hyperidrosis with offensive odor, for cleansing the scalp and checking dandruff, for treating pustular acne and furuncles, for the preparation of vaginal douches, and for ridding household pets of fleas and lice.

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Mexican Drugs.

THE warlike disturbances in old Mexico are responsible for many troubles of manufacturers and importers of botanical drugs. Mexico is the source of quite a number of our medicinal plants, and some of these are practically unobtainable. It seems to be unsafe for the peons, who usually work under the supervision of a professional collector, to venture far away from settlements, and even when they succeed in gathering a shipment, there is no guarantee that it will ever reach the border. For more than twenty years Cereus Grandiflorus, used in the manufacture of Cactina Pillets, has been cut on the mountain slopes of the Vera Cruz range situated in the State of Tamaulipas. The Sultan Drug Company states that very few shipments have found their way into the United States, and at one time they were greatly concerned about the safety of one of their collectors, an American who has lived in Mexico many years. For some time past the Sultan Drug Company has been carrying at least a year's supply of Cereus Grandiflorus ahead, as the dangers of this unsettled condition were anticipated.

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THE advantages of Pasadyne (Daniel), the concentrated tincture of Passiflora Incarnata, as a means of relief in headaches of a nervous type are so marked that it seems to warrant the distinction of being put in a class by itself. In this condition, Pasadyne (Daniel) not only soothes the cephalalgia but also exerts a potent force on the nervous element so noticeable in these cases. It may be given to women and children without causing unpleasant symptoms, oftentimes a feature of other agents. It has no concern with the Harrison Act. A sample bottle for trial may be had by addressing the laboratory of John B. Daniel, Atlanta, Ga.

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In the light of recent discoveries that en-

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damebas are also the cause of pyorrhea, ipecac, already well and favorably known in the treatment of amebiasis, has enjoyed greatly increased prominence and is today ranked as one of the most useful drugs.

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Plasmodial Anemia.

In spite of the modern theory of the etiology of malaria and malarial affections (mosquito-borne infection) this plasmodial disease continues to be rife in certain sections of the country and bids fair to be, like "the poor," "always with us."

Every physician of experience appreciates the principles which should guide him in the treatment of the various acute manifestations of paludal poisoning, i. e., the destruction of the plasmodial hosts which have invaded the blood and which, if not eliminated, consume and destroy the red cells, the vital element of the circulating fluid.

When this purpose has once been accomplished the patient is but partly cured; the damage done to the red corpuscles must be repaired and the vitality of the blood restored, if re-infection is to be avoided. If there is any one condition in which direct hematinic or blood-building therapy is positively indicated, it is in Post-Malarial Anemia. As soon as the febrile period has passed, iron, in some form, should be given in full dosage. Pepto-Mangan (Gude) constitutes the ideal method of administering this essential blood-building agent in this as well as in any anemic condition. Both the iron and manganese in Pepto-Mangan are in organic combination with peptones and are therefore easily and promptly absorbed and assimilated without causing digestive derangement or producing constipation.

The Remedy of Choice in Cardiac Affections.

It is interesting to note the growing interest medical men are taking in Cactina Pillets as a safe and dependable cardiac tonic. This is not surprising; indeed, the only surprising feature is that the efficiency of this remedy has not been more generally realized. Hardly any one drug, with the possible exception of digitalis, has a broader field of activity, and there are many competent observers who place it first among cardiac remedies. Experience has shown that the most conspicuous influence of Cactina upon the heart is its effect on the local nutrition and consequent increase of the muscular-motor energy. Certainly it is the heart

tonic par excellence, since it increases heart action and restores nerve function with a promptness that is rarely observed with any other remedy.

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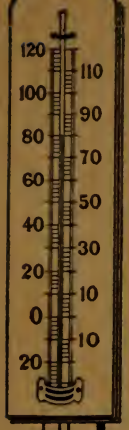

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Dr. Louis L. Lloyd, who was operated on for appendicitis June 26 in the Maryland General Hospital, is much improved.

Dr. Page Edmunds attended the twenty-fourth annual meeting of the Baltimore & Ohio Association of Railway Surgeons, of which he is president. The meeting was held in Chicago.

The decennial reunion of the class of 1905, University of Maryland, was held in Baltimore June 22, 23 and 24. One of the most interesting features of the reunion was a clinic held by Dr. Hugh H. Young at the Brady Institute.

Dr. Herbert A. Codington, ex-resident surgeon at the University Hospital, has been appointed superintendent of the James Walker Memorial Hospital, Wilmington, N. C.

Dr. Winford H. Smith, superintendent of Johns Hopkins Hospital, has been chosen head of the American Hospital Association, an organization of the country's hospital and infirmary directors. The convention will hold its 1916 meeting in Philadelphia.

BIRTHS.

Recently to Dr. Walton H. Hopkins, University of Maryland Medical School, '04, and Mrs. Hopkins, of Annapolis, Md., a son.

MARRIAGES.

Karl Miller Wilson, M.D., of 23 W. Chase street, Baltimore, Md., to Miss Mildred Hallowell Bently of Sandy Springs, Md., at Sandy Springs, June 1, 1915.

Thomas Leonard Richardson, M.D., Baltimore Medical College, '98, of Baltimore, Md., to Miss Ruby Thompson Moore of Monroe, N. C., at Charlotte, N. C., June 16, 1915.

Elliott Holsworth Hutchins, M.D., Johns Hopkins Medical School, '06, of Barstow, Md., to Miss Ernestine S. Dulaney of Baltimore, Md., at Baltimore, June 15, 1915.

DEATHS.

St. Clair Spruill, M.D., University of Maryland Medical School, '90; a Fellow of the American Medical Asociation; First Lieutenant, Medical Reserve Corps, U. S. Army; clinical professor of surgery in his alma mater; from 1892 to 1898 superintendent of the Lying-In Hospital of the University of Maryland; surgeon to the University and Hebrew hospitals; attending surgeon to the Maryland General Hospital, Baltimore, and the Emergency Hospital, Annapolis, Md.; chief surgeon to the Washington, Baltimore & Annapolis Railway and consulting surgeon to the Baltimore & Ohio System; from 1902 to 1904 major and surgeon Maryland National Guard, assigned to Fifth Infantry, died at his home in Baltimore, June 24, 1915, from septic bronchitis, following influenza, aged 49 years.

Samuel J. Windsor, M.D., College of Physicians and Surgeons, '86; a Fellow of the American Medical Association; until two years ago a practitioner of Dames Quarter, Eastern Shore, Md., died at his home in Baltimore, June 21, 1915, from heart disease, aged 52 years.

Frank Havens Russell, M.D., University of Maryland Medical School, '93; a Fellow of the American Medical Association; for several years a member of the Board of Health of Wilmington, N. C., died at his home in that city, June 4, 1915, from cerebral disease, aged 43 years.

William C. Johnson, M.D., College of Physicians and Surgeons, '87, a physician and druggist of Coleman, Fla., was shot and killed by his son, June 6, 1915, aged 52 years.

Orlando C. Stewart, M.D., University of Maryland Medical School, '78, formerly of Cookport, Pa., died at his home in Toledo, O., June 2, 1915, aged 53 years.

William Milton Dumm, M.D., Johns Hopkins Medical School, '12, assistant gynecologist at Johns Hopkins Hospital, was drowned while bathing at one of the private shores near Sparrows Point, July 12, 1915, aged 27 years.

William Gibson Floyd, M.D., University of Maryland Medical School, '78, a practitioner and druggist of Roanoke, Ala.; for several years county physician of Randolph county, died in a sanatorium in Atlanta, Ga., June 26, 1915, several days after a surgical operation, aged 63 years.

George E. Jordan, M.D., College of Physicians and Surgeons, '91, a member of the medical Society of the State of North Carolina and druggist of Gibsonville, died at his home in that place June 20, 1915, from cerebral hemorrhage, aged 56 years.

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WHAT FEDERAL LICENSURE WILL DO.

Medical Council.

The Journal of the American Medical Association for September 12, 1914, presents a long editorial in favor of Federal licensure, proposing a national standard by the way of examination for entrance into the Medical Reserve Corps, a military organization. Our own suggestion was along similar lines, but by the way of the Public Health Service, a quasi-military branch of Federal service.

There is much in common embraced in the suggestions of *The Journal* and *Medical Council,* both agreeing that Federal licensure is not prevented by the United States Constitution. But we believe our suggestion to be better because the Medical Reserve Corps is designed to serve principally in time of war, while the Public Health Service serves both during war and peace. Therefore, this article will be based upon our own suggestion, although we are very glad to see almost a parallel suggestion from this representative journal.

First, a word as to what Federal licensure would *not* do. It could not be retroactive; that is, could not give to those in practice at the time of the passage of the act the privileges it provided for new graduates, except in so far as the several States were willing, through their boards, to grant these privileges. In practice there is little doubt but that a State-board certificate based upon an examination standard at the time, and such as now constitutes a basis for reciprocity, would be accepted. But the physician who possesses legal status in a State under some old law which did not demand a rigid examination, who registered under some "sectarian" board now non-existent, or who never received a medical degree, but was permitted to continue practice in his State, could not expect to qualify under a Federal law of recent standard status unless he passed a rigid examination. The only advantage to him would be that his new license would be nation-wide instead of restricted to a State.

But *indirectly* the old practitioner might be benefited. The lack of interstate reciprocity is caused more by inferior medical schools than by any desire to keep qualified old practitioners from changing territory. It is a fact that so long as certain States tolerate low-grade colleges and register their graduates, these States will look in vain for reciprocity from better-standard States.

One of the first things Federal licensure would accomplish would be to render the low-grade medical school such an anomaly as seriously to endanger its position in the educational field. The passage of a Federal act would promptly put a quietus on the low-grade proprietary medical school. After this was accomplished there would be vastly less difficulty than at present in extending reciprocity, and the really qualified old practitioner would probably be looked after in an equitable way by an understanding between the several State boards. The probability would be that at once the several existent and disbanded medical schools would be given a rating by the Federation of State Medical Boards of the United States, certain ones being recognized and others not. Once remove the discredited medical school from legal status in *any* State and the graduates of good colleges would have little occasion to complain of their treatment by State boards. The old graduate of an inferior school who desired to move to another

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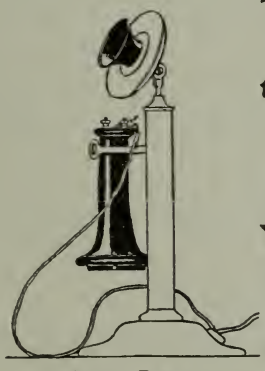

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State would have the privilege of repairing his educational defects and taking an examination, as at present; but this is about all that could be done for him.

UNIFYING THE PROFESSION.

It is unthinkable that the Federal Government would discriminate for or against any so-called sect in medicine any more than it would in religion. Federal licensure would be purely upon a basis of attainment. What the qualified man chose to call himself would be no concern of the Government. But inferior attainment, under whatever name—optometrist, chiropractic or what not—could not be acceptable. What the Government would be directly interested in knowing is: Would this man make a competent surgeon in the field in time of war? Is he capable of making a sanitary survey with the necessary chemical and bacteriological tests? Could he safely be trusted to immunize our soldiers against typhoid in time of dangerous campaigns? Could he be given charge in a campaign against malaria, yellow fever or bubonic plague? Can he diagnose tuberculosis in its incipiency, treat syphilis in the modern way, and does he have the technical ability to catherize a difficult case, make an X-ray examination, ligate a deep artery or intubate in diphtheria?

It takes but little thought to comprehend what a clearing out of fake methods would result when the pretender to medical knowledge learned that the gentle art of bamboozling legislatures and working political pulls was done for good and all.

THE OLD AND THE NEW.

Even as State banks gave way to national banks, so State licensure will give way to national credentials. But State *banking departments* did not give way, and State medical boards need not. Indeed, the coming State board will fill an even more useful place than formerly, because it will have the time to purify medical conditions within its territory. Leaving licensure bases to legislatures pulled thither and yon by all sorts of interests has worked all but irreparable harm to medicine and has served to accentuate sectarian differences and give a quasi-legal basis to quackery. Federal licensure would do away with this. Under a Federal plan, a State that wished separately to license "neuropathy," "vasculopathy," "musculopathy," "osteopathy," "dermatopathy" or "splanchnopathy" could go right on to its heart's content; but these pathies would remain to plague the State alone and would die for lack of worlds to conquer.

On the other hand, the man who believes that osteopathic manipulations are of value—as they often are in properly selected cases—could practice osteopathy under a Federal license with no restriction other than the qualifications demanded for the practice of aphthalmology or dermatorogy. Indeed, osteopathy on its merits would come more quickly into its own than under present regulations—the coming osteopaths (probably not so named) would be scientific and qualified men recognized as broad-minded specialists.

A NATIONAL DEPARTMENT OF HEALTH.

For some years the American Medical Association has been fostering the proposition, "A Doctor in the Cabinet." The movement at first was upon a basis not at all calculated to win the support of the various Federal medical services. The difficulty was

A Temporary Diet for Infants in Summer Diarrhea

Mellin's Food
4 level tablespoonfuls
Water (boiled, then cooled)
16 fluidounces

Each ounce of this mixture has a food value of 6.2 calories—affording sufficient nourishment and in a form readily assimilable.

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that the various health units in Federal work were to be placed under civil, not military, control. This could never be made to work and would inject a regretable political factor into a branch of work staggering under altogether too great a load of politics, in some localities, at present. Gradually the viewpoint of the gentlemen who are sponsors of the movement are being brought into accord with the attitude of official Washington. This editorial is being written in Washington, and this editor is in position to know what the attitudes of many of the various medical officials in Washington are. We are not their spokesman and do not feel justified in quoting any of them specifically, especially since there is more or less disagreement among them. Suffice it to say that the movement in general is gaining in strength and is being brought into accord with the interests of the National Government. Briefly, the Government cannot delegate its prerogatives to any organization not definitely under governmental control and responsible to the legally constituted authorities. Any Federal department of health will be merely an enlargement of work now undertaken and as embraces interstate and international health relations. Our form of government will permit of none other.

Southern Medical Journal, September, 1914, contained an editorial suggesting an enlargement of the sphere of the United States Public Health Service, its correlation with the Medical Corps of the United States Army and Navy, the training of soldiers, marines and sailors as sanitary inspectors, and the appointment of Surgeon-General Gorgas as Secretary of Health. It is rather remarkable that the *Journal A. M. A., Southern Medical Journal* and *Medical Council* should, independently of each other and in the same month, come so close together in expression of opinion, differing only in details.

We largely agree with both of these journals and have had a frank talk over the several points of view with gentlemen identified with the branches of the Federal services involved. And the point stands out that it is the *local unit* in sanitation that is weak in this country. It would be easy to organize the Federal department proposed, along one of several lines, but the *important* thing is so to organize it that it would most strengthen the local units all over the country. To do so by federally paid local officials all over the country would not only interfere with state rights, but would cost so much it could not be done.

To our great gratification, some of the gentlemen in Washington very much approve of the editorial we printed in September, and they consider the plan to be workable, except that the sanitary inspectors appointed would better not be non-commissioned, as we suggested, but be appointed as "medical officers" acting as sanitary inspectors. *But the important thing is that these men would be the local representatives of the Federal Department of Health,* were it created. This might mean *you,* Doctor, and your brethren in your medical society.

So the plan for Federal medical licensure that we proposed in September would not only provide for more equitable licensure, but it would make possible a perfectly legal and relatively inexpensive multitude of sanitary inspectors for the proposed Federal Department of Health. This would be a better force than lay sailors, soldiers and marines, and it would keep professional work

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and professional pay within the medical profession itself and raise no problems regarding Federal intrusion into State work.

AN UPLIFT OF THE PROFESSION.

The adoption of some plan along the general lines that we propose would do these things also:

It would federalize medicine, a thing much needed in America.

It would strengthen our medical societies, making of them clearing-houses for information, plans and co-operative work.

It would solve the difficult problem how to make the rank and file of physicians practically interested in public hygiene and sanitation in general, not merely as involves the individual patient.

It would put the medical profession in a strong position before the public.

It would strengthen our State health boards and departments, making friendly co-operation between them and the private physician all but universal.

It would do more to abolish quackery than any other one thing.

It would promote research along practical field lines.

It would rehabilitate the *general practice* of medicine.

It would elevate medical standards.

It would all but eliminate politics from medical practice and from our work in public sanitation.

It would cost the Government little and yet would improve the financial status of the profession at large, and it would make correct medical ethics pay.

Greatest of all, it would bring incalculable benefits to the people.

ANESTHESIA AMONG THE INDIANS.

By J. M. G. Keekay, M. D.

The anterior history on ancient anesthetic agents and methods is, with some difference, similar to the works of other authors and writers on this topic; but the following research of the "Anesthesia among the Indians" is original of Dr. J. M. G. Kukay, as will be shown in this course.

It is very difficult to write on any subject of remote times without a manuscript or some other information to give some light on the writer's investigation, excepting mummies, trephined skulls If it is not possible to know the date and name of the first that discovered the anesthesia in the civilized Europe, is it possible to know this in the savage region of America prior to Columbian time? The following brief history is the way taken by the writer in his research:

In the year 1904 (I have a few pages of this work, and anything in regard of this subject was a point of investigation and study for me), when visiting our "American Museum of Natural History" of New York, my attention was called to the collection of Indian mummies buried with a sack of coca leaves, and the trephined skulls, brought by Mr. E. G. Squier from the burials of the Incas Indians at Chiara Valley, Peru.

My first step in this research was a visit to Peru, which I did one year after. Once in the Valley of Yucay, I began to ask the

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natives if they knew the use of coca among the Indians, but no one knew nothing about it. Finally I got the address of an Indian's descendant by name Senor Juan, who lived several miles away, and I went to his camp, accompanied by a native. Senor Juan was about 90 years of age (he don't know it). After I told him the object of my visit (the writer is familiar with the Spanish language), he said: "We don't use books or any writing, but we keep all the records in the 'Quipu,' in which the color of the cord, length, number of knots and kind of it, etc., we record the important incidents, and by memory the non-important ones." "Can you tell me what for your forefathers were buried with coca leaves?" I asked. "Certainly," he answered. "Before the Spaniards came we were more happy and rich, and when a 'Cacique' (Indian chief) or some member of his family died, the relatives put, with many other things, the holly leaves." "What other use have they for these leaves?" "Oh, many," he said. "We use it even today as a tonic, to relieve pain, and chew it as you do with tobacco." "Can you explain the reason of the perforation of the skull?" "Of course," he answered..

"This was done to the son or son-in-law of the dead 'Cacique,' and was a religious ceremony. If the son lived after the operation, he became cacique, but the most died after cutting the square hole in his head." "Do they use any coca leaves in the operation?" I asked. "Yes, plenty. "The 'Curanderos' (Indian physicians) mixed in one concave stone a large quantity of leaves and water, and with other stone, like a pestle, triturated them very fine to the consistence of a syrup. Then they gave slowly to drink until they do not move, and the curanderos start the operation, which takes sometimes the whole day; and all the time during the operation the men, women and children pray with his prayer sticks."

"What do they do in case that the man feels pain?" "Well, they give more stuff to drink."

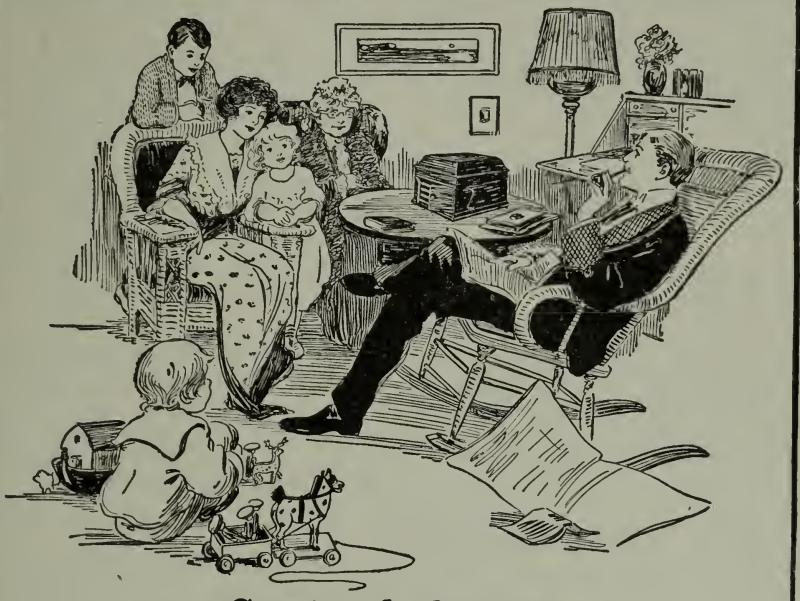
"Did they ever die before the operation was over on account of the syrup?" Very few. The curanderos have very much experience in handling the coca, and they know the danger by the color of the skin."

"Have you seen any such operations?" I asked. "No;" they were used when the Incas domained this country, or in times when no Christian inhabited here." "How do you know all the customs among your people?" "Easy; some by memory from my fathers, grandfathers, etc., and others by old 'Quipus.'"

After all this caudal of information the writer went to Surco, Peru. In this place he compiled more information on the use of coca leaves. Between the different uses was that they gave to eat coca leaves to the Indian women in labor time. But nobody gave so complete and important information as Senor Juan.

By this revelation and the evidence from the museum the writer was completely convinced that coca leaves were used to produce narcosis and anesthesia by the Incas Indians of Peru in performing surgical operations by means of knives made from copper, bronze and stone.

No one that knows the works of Dr. von Tschudi, Mr. E. G. Squier and the writer's research will doubt this statement.



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This fraud, which was exposed at an action tried before the Supreme Court of Victoria at Melbourne, and others reported before in the medical literature, show that every physician should see that his patient gets exactly what he prescribed. No "just as good" allowed.

More Light on Ipecac Medication.

THE discovery that the alkaloids of ipecac possess marked amebicidal properties and are curative in two very prevalent diseases, namely, pyorrhea alveolaris and amebic dsyentery, caused a greatly-increased demand for the drug and a consequent doubling, and even trebling, of the price. Previous to this discovery ipecac was used in a moderate way by physicians for the most part as syrup of ipecac or as Dover's powders.

It has been shown that cephaeline, one of the ipecac alkaloids, possesses twice the emetic strength of the other alkaloid, emetine, and that this latter principle is stronger than cephaeline as an amebicide. As a result of this syrup of cephaeline, a new pharmaceutical product has been placed on the market by Eli Lilly & Co. of Indianapolis, and is said to be replacing the old syrup of ipecac, which was decidedly nasty tasting and disagreeable for children to take.

The other alkaloid of ipecac, emetine, is now used almost entirely for subcutaneous injection, and is supplied for this purpose either in tablets or in sterile solution in ampoules. Eli Lilly & Co. are authority for the statement that the greatest demand for this product comes from dentists, who seem to prefer the ½ per cent. solution in 2 c. c. ampoules, this solution being

used locally in the pyorrheal pockets about the teeth.

Perhaps the greatest field for ipecac and one in which both physicians and dentists are greatly interested is the internal administration of ipecac for its systemic effects in treating pyorrhea and amebic dysentery. The oral administration of the drug is made possible by a form of hydrated aluminum silicate combined with the ipecac alkaloids in the form of an absorption compound. The alkaloids are liberated only in the alkaline intestinal secretions, and thus all nausea is avoided.

These tablets are manufactured by Eli Lilly & Co., and they represent the most practical and successful method of giving ipecac orally. This treatment will be preferred by patients to the painful procedure of hypodermatic injection, and the tablets will be found far more convenient for the busy physician and equally as certain in their therapeutic results. Literature will be supplied on request to Eli Lilly & Co.

The Delicate School Girl.

EVEN the most robust and generally healthy children show the deleterious results of the modern system of educational "forcing" that prevails in most of our larger cities. The child that starts the school year in excellent physical condition, after the freedom and fresh air of the summer vacation, in many instances becomes nervous, fidgety and more or less anemic as the term progresses, as the combined result of mental strain and physical confinement in overheated, poorly ventilated schoolrooms. How much more likely is such a result in the case of the delicate, high-strung, sensitively-organized adolescent girl? It is certainly a great mistake to allow such a girl to continue under high mental pressure at the expense of her physical health and well-being, and every available means should be resorted to to conserve the vitality and prevent a nervous breakdown. Regularity of meals, plenty of sleep, out-of-door exercise without fatigue, open windows at night and plenty of nutritious food should all be supplied. Just as soon as an anemic pallor is noticeable it is a good plan to order Pepto-Mangan (Gude) for a week or two, or as long as necessary to bring about an improvement in the blood state and a restoration of color to the skin and visible mucous membranes. This efficient hematinic is especially serviceable in such cases, because it does not in the least interfere with the digestion nor induce a constipated habit.

War Prices.

THE enormous advance in the price of drugs, owing to the European war, is well exemplified in the bromide salts. Bromide of Potassium, for instance, which sold before the war at 35 cents a pound, is now quoted at $1.25 per pound, and the other salts have advanced in proportion. The very high price and scarcity of these salts is a great temptation for substitution. The safe way for the physician is to prescribe Peacock's Bromides, which, in spite of the great advance in the cost of manufacture, is still sold at the old price. Its formula has not been changed and this is a guarantee of uniformity and purity.

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CHRONIC catarrh never fails to indicate general constitutional debility. Local treatment is always desirable but for permanent results efforts must be directed toward promoting general functional activity throughout the body, and a general increase of systemic vitality. The notable capacity of Gray's Glycerine Tonic Comp. in this direction readily accounts for the gratifying results that can be accomplished through its use in the treatment of all chronic catarrhal affections, but especially those of the gastro-intestinal canal and respiratory tract. The particularly gratifying features in the results accomplished by Gray's Glycerine Tonic Comp. are their substantial and permanent character. This is naturally to be expected since they are brought about through restoring the physiologic balance of the whole organism.

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In 1902 the Night School was organized, and this department has been in continuous session three nights per week ever since, and has been the means of giving the foundation for many men and women who are now successfully engaged in the practice of law, medicine, dentistry, pharmacy, the ministry, etc., while many others

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have entered and successfully completed their college or technical education.

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In addition to the work in high school and college courses, instruction is also offered in business subjects and civil service preparation. The aim of Milton is "service;" the object to "help others to help themselves."

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well known that abrasions or irritations of the mucous surfaces permit bacterial infection and general toxemia.

American Oil may be taken with a pinch of salt or a dash of lemon juice if the patient so desires, or it may be floated on a glass of water, wine, milk or other beverage. The dose recommended for adults is one or two tablespoonfuls morning and night, before or after meals, for the first two or three days. Later the amount may be diminished. To insure against possible mistakes, physicians will do well to specify "P., D. & Co." on their prescriptions.

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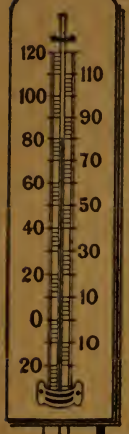

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No.	College of Graduation.	Anatomy	Surgery	Pathology	Obstetrics	Practice	Chemistry	Materia Medica	Therapeutics	Physiology	Total	Average
64	University of Maryland, '15	83	84	84	92	75	85	90	84	82	759	84
65	Johns Hopkins, '15	75	85	78	90	79	84	44	75	65	675	75
66	Johns Hopkins, '13	81	91	94	91	84	95	75	76	87	774	86
67	Johns Hopkins, '06	93	87	91	85	84	88	80	82	91	781	87
68	Johns Hopkins, '15	86	86	95	92	86	98	90	79	75	787	87
69	Johns Hopkins, '09	97	93	95	88	79	98	90	100	88	828	92
70	University of Maryland, '15	87	90	83	85	64	83	85	75	88	740	82
72	University of Maryland, '15	94	77	89	86	67	91	79	87	75	745	83
73	Johns Hopkins	78	..	..	..	..	100	78	..	89	...	..
74	Maryland Medical, '12	68	..	54	..	67	..	..	..	..	...	..
75	Johns Hopkins, '15	79	87	76	90	75	70	80	61	83	701	78
76	University of Maryland, '15	91	86	72	87	79	100	76	78	83	752	83
77	University of Maryland, '15	74	84	82	97	82	84	79	86	80	748	83
78	University of Louisville, '12	49	..	..	..	..	70	..	..	..	...	..
79	Johns Hopkins	37	..	..	..	..	75	48	..	68	...	..
80	Jefferson Medical, '15	79	93	78	90	89	81	67	72	63	712	79
81	Johns Hopkins, '15	90	90	93	92	75	97	86	92	88	803	89
82	Johns Hopkins	79	..	..	..	..	90	75	..	75	...	..
83	Johns Hopkins, '15	88	91	78	84	75	70	67	69	82	704	78
84	University of Maryland, '15	80	87	88	91	55	70	75	37	92	675	75
85	University of Maryland	82	..	..	..	..	82	88	..	82	...	..
86	Johns Hopkins	73	..	..	..	..	76	77	..	87	...	..
87	Georgetown University, '15	94	92	91	98	83	84	75	75	83	775	86
88	University of Virginia, '13	80	84	75	78	75	65	56	85	77	675	75
89	Howard Medical, '14	71	85	65	73	71	80	75	72	69	661	73
90	Chicago College of Medicine, '15	87	92	76	96	81	79	75	86	79	751	83
91	University of Maryland, '15	94	86	82	90	76	99	93	76	75	771	86
92	University of Maryland	79	..	..	..	..	75	88	..	88	...	..
93	Johns Hopkins, '15	79	92	78	78	75	76	80	82	80	720	80
94	University of Maryland, '15	77	77	70	65	75	70	60	73	85	652	72
95	University of Maryland	85	..	..	..	..	65	69	..	82	...	..
96	University of Maryland, '15	83	84	67	82	75	75	67	67	84	684	76
97	University of Maryland, '15	76	80	76	80	80	75	75	80	90	712	79
98	Bennett Medical, '14	46	76	49	82	68	40	..	..	..	...	..
99	College Physicians and Surgs., Balto., '15	74	84	89	81	80	60	75	69	84	696	77
100	University of Maryland, '15	92	91	89	94	80	99	93	91	83	812	90
101	College Physicians and Surgs., Balto., '15	88	90	92	92	76	75	80	76	91	760	84
102	University of Maryland, '15	79	92	80	91	86	89	79	86	81	763	85
103	University of Maryland	77	..	..	..	..	57	66	..	86	...	..
104	University of Maryland	68	..	..	..	..	75	50	..	75	...	..
105	University of Maryland	75	..	..	..	..	78	77	..	80	...	..
106	University of Maryland, '15	75	88	90	80	75	75	66	81	81	711	79
107	University of Maryland, '15	83	91	79	81	75	95	89	87	75	755	84
108	Johns Hopkins	68	..	..	..	..	90	75	..	81	...	..
109	University of Maryland, '15	Failed to appear.										
110	University of Maryland, '15	90	85	91	92	87	80	84	94	88	791	88
111	Johns Hopkins	86	..	..	..	..	75	87	..	96	...	..
112	University of Maryland, '15	80	90	82	88	76	79	80	78	85	738	82
113	University of Maryland, '15	91	76	85	79	75	80	84	88	77	735	82
114	University of Maryland, '15	90	85	71	89	80	77	78	71	81	722	80
115	Medical College of Virginia, '12	57	69	27	54	64	61	64	45	58	499	55
116	University of Maryland, '15	80	88	86	89	79	86	84	96	80	768	85
117	College Physicians and Surgs., Balto., '15	70	80	80	88	75	75	67	64	79	678	75
118	Maryland Medical College, '13	21	..	54	..	..	20	75	77	33	...	..
119	Howard Medical, '14	55	..	..	..	..	70	75	50	65	...	..
120	University of Maryland, '15	85	90	82	85	78	88	83	82	90	763	85
121	Harvard Medical School, '15	76	73	75	90	76	50	55	70	79	644	71

In the above summary an average of 75 is required of those participating in the examination for the first time in order to secure a license. Those who have failed are eligible to re-examination at the expiration of six months. They are then obliged to receive a rating of 75 in each branch in which they are re-examined before license can be issued. Under the Maryland laws, students who, at the end of their second year, have successfully passed their college examination in Anatomy, Chemistry, Materia Medica and Physiology are entitled to examination by the Board of Medical Examiners in these branches. The ratings made by these students in the examination known as the "second-year examination" are carried forward and made part of the final examination, when an average of 75 must be obtained to secure a license. We trust that this statement will make clear the apparently incomplete examination of certain participants.

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REPORT OF BOARD OF MEDICAL EXAMINERS OF MARYLAND.

QUESTIONS AT THE JUNE (1915) EXAMINATIONS.

OBSTETRICS AND GYNECOLOGY.

1. Give the subjective and objective signs of pregnancy.

2. Into what classes is extra-uterine pregnancy divided? Give diagnosis and treatment at time of rupture.

3. Give Crede's method of delivering the placenta, and what are its advantages.

4. Give treatment of transverse position with arm protruding.

5. Explain fully when, and how, you would use a pair of axis-traction forceps.

6. Define the three stages of labor.

7. What are the relative and absolute indications for Cesarean section?

8. Define (a) Menorrhagia. (b) Metrorrhagia. (c) Dysmenorrhea. (d) Amenorrhea.

9. Give diagnosis of cancer of the uterus.

10. Give the different methods of treating prolapsed uterus.

SURGERY.

1. What is trachoma? Give signs, symptoms and treatment.

2. Give signs, symptoms and differential diagnosis of carcinoma of the tongue. Outline the treatment.

3. Give the symptoms, diagnosis and treatment of tuberculosis of the kidney.

4. Name the varieties of fistula-in-ano and give treatment.

5. State the avenues and possible points of metastasis of a malignant growth of the breast. On what symptoms may an early diagnosis of cancer of the breast be based?

6. How would you diagnose and treat a case of fracture of both bones of the forearm, occurring at the middle third?

7. Symptomatology and treatment of acute catarrhal otitis media.

8. Give symptoms, diagnosis and treatment of Pott's disease in the dorsal region.

9. Name the cardinal symptoms of brain tumor.

10. Give the differential diagnosis between cholelithiasis and appendicitis.

PRACTICE.

1. Define (a) Define blood pressure. (b) What is high blood pressure? (c) Give causes. (d) What do you mean by systolic and diastolic blood pressure? (e) Name some conditions in which it is a prominent symptom, and give treatment.

2. Differentiate the fevers of typhoid, malaria and early tuberculosis.

3. Differentiate follicular tonsillitis and diphtheria.

4. Differentiate epilepsy and hysteria.

5. Give diagnosis of acute chorea and the most common complication, and give treatment.

6. Give treatment of pneumonia.

7. Give diagnosis and treatment of empyema.

8. Give treatment of acute nephritis.

9. Give diagnosis and treatment of locomotor ataxia.

10. Give treatment of cholera infantum.

PATHOLOGY.

1. What changes occur in the mucous membrane of the lungs in acute bronchitis?

2. Mention some causes of and describe the changes in the vessels occurring in arteriosclerosis.

3. Describe the hookworm and give its life history.

4. Describe the morbid changes occurring in acute emphysematous gangrene.

5. Describe the process of recovering from a burn which destroys the skin.

6. Define cyst, cytolysis, diapedesis, mitosis.

7. Discuss edema.

8. Describe the bacillus of typhoid fever.

9. What may take place if a foreign body is buried in living tissue, and why?

10. What is a sequestrum? Describe its formation.

PHYSIOLOGY.

1. Define physiology and state what is meant by the physiological effect of a drug. Give examples.

2. (a) Give chief functions of connective tissue. (b) Epithelial tissue. (c) Adipose tissue. (d) Bone.

3. (a) Into what general classes are foods divided? (b) Give examples of each. (c) Give functions of each class of food in the nutrition process.

4. (a) What is meant by the respiratory sounds? (b) Where is the respiratory center? (c) How can you estimate the quantity of air breathed?

5. (a) Describe the nerve cells and state how they are classified. (b) What is meant by nerve centers?

6. Define digestion, absorption, nutrition, secretion and excretion.

7. Salivary glands. (a) Describe histological structure. (b) Secretion. (c) Innervation. (d) Influence of the secretion on normal digestion.

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8. What factors are concerned in the production and maintenance of blood pressure? Give normal blood pressure in adult.

9. Describe the effects of inhalation of carbon monoxide, and of carbon dioxide on the human system.

10. Discuss the effect of alcohol on the human system.

MATERIA MEDICA.

1. Arsenic. (a) Give the official preparations and doses. (b) Give the antidote for acute arsenical poisoning.

2. Silver. (a) Give the official preparations. (b) The incompatible. (c) Name some of the organic silver salts in use. (d) What is the result of mixing silver and creosote?

3. Ipecac. (a) Describe it. (b) Give the official preparations and doses. (c) Name some of the unofficial preparations and doses.

4. Define germicide, antiseptic, deodorizer, anaesthetic, anodyne, and hypnotic, and give two examples of each.

5. Zinc. Give official preparations and doses.

6. Give the average hypodermic dose of the following: Nitroglycerine, strychnine sulphate, atropine sulphate, morphine sulphate, apomorphine hydrochloride, pilocarpine hydrochloride, and Norwoods tincture of veratrum.

7. Define and give examples of the following classes of drugs: Vermicides, diuretics, diaphoretics and emetics, and give doses.

8. State what you know of electricity as a medicinal agent and method of application or administration.

9. Write a prescription, using official terms, for an adult—dose to be given after each meal—of iron, arsenic, quinine, strychnine and gentian. One containing three drugs as a diuretic, one containing at least two drugs as an expectorant cough mixture.

10. Name three drugs that are circulatory stimulants, three circulatory depressants, and give dose of each. Also define vasoconstrictors and vasodilators. Give doses and methods of using each.

THERAPEUTICS.

1. Give the therapy and describe the operation of paracentesis thoracis.

2. Give the therapy and dosage of digipuratum and preferable methods of administration.

3. Give the indications for and physiological action of venesection.

4. Write a prescription in Latin, without abbreviation, containing four ingredients, stating the condition for which it is to be used, with directions for administration.

5. Give the physiological action of valerian.

6. Give the physiological action and therapy of the "lead salts" and treatment of plumbism.

7. Resorcin, its physiological action and therapy, compared with acid carbolic.

8. Differentiate the indications for employment of pituitary extract.

9. Physiological action of rhus toxicodendron, signs of poisoning and treatment.

10. Pilocarpin, physiological action and therapy.

ANATOMY.

1. Describe the middle ear.

2. Origin, course and distribution musculospiral nerve.

3. Describe minute anatomy of kidney.

4. (a) What are the divisions of the brain? (b) Name the principal fissures. (c) What fissures divide each hemisphere into lobes? (d) Name the lobes of the brain. (e) Of what does the corpus callosum consist?

5. Locate surface lines dividing abdominal cavity into regions. Name regions and state contents of lower right-hand region.

6. Name structures transmitted through any two of these three foramina: (a) Foramen magnum. (b) Sphenoidal foramen. (c) Optic foramen.

7. Describe and give anatomical relations of vermiform appendix.

8. Name varieties of inguinal hernia and give difference in varieties.

9. What bones enter into formation of knee joint? Name ligaments of knee joint.

10. Origin, insertion, action and nerve supply of following muscles: (a) External pterygoid. (b) Pectoralis minor. (c) Triceps extensor cubitis. (d) Peroneus brevis.

CHEMISTRY.

1. State the law of multiple proportions and give illustration.

2. What are oxidizing agents? Give examples.

3. What is the action of chlorine on metals, water, ammonia and on coloring matters?

4. (a) Describe the element silver, giving its condition in nature and valence. (b) Give name and formula of the silver salt most commonly used in medicine, also test for same. (c) Give treatment of poisoning by this salt.

5. Mercury: (a) Occurrence in nature and valence. (b) Mention and give formula of three mercurous and three mercuric salts. (c) State which of these is contained in the following: "Black wash" and antiseptic tablets.

6. Show by formulae the action of sulphuric acid and of hydrochloric acid on zinc.

7. How can sugar be distinguished from other reducing substances when found in urine?

8. Of what substances are urinary calculi usually composed?

9. (a) What is an aldehyde, and what relation do they bear to alcohols? (b) Write the formula of formaldehyde and give its properties. (c) What are its advantages and disadvantages as a disinfectant?

10. Give outline of a urinary analysis, mentioning the object and general operation of the tests. (Or) Give an outline of an analysis of feces, mentioning the object and general operation of each test.

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An oil painting of the late Dr. J. Brown Baxley, painted by L. P. Deitrich, will be hung in the Baltimore General Dispensary, Paca and Fayette streets.

Dr. Winford H. Smith, superintendent of the Johns Hopkins Hospital, has been spending his vacation in Maine. Dr. Karl H. Van Norman, first assistant superintendent, acted as superintendent during his absence.

BIRTHS.

To Howard J. Maldeis, M.D., University of Maryland, '03, and Mrs. Maldeis of Baltimore, Md., Wednesday, July 28, 1915, a daughter.

To Amzi Bedell Shoemaker, M.D., University of Maryland, '08, and Mrs. Shoemaker of North Attleboro, Mass., July 24, 1915, a son—Henry Wheaton.

To Don Preston Peters, M.D., and Mrs. Peters of Baltimore, Md., July 19, 1915, a son—Don Preston Peters, Jr.

MARRIAGES.

William T. Black, M.D., Physicians and Surgeons, '14, of Berkeley, W. Va., to Miss Grace Royston of Baltimore, Md., at Baltimore, June 24, 1915. Dr. and Mrs. Black will reside in Berkeley, where Dr. Black is in practice.

Howard N. Freeman, M.D., Baltimore Medical College, '12, of Baltimore, Md., to Miss Letitia E. Lord, University Hospital Training School for Nurses, class of '14, of Martinsburg, W. Va., at Martinsburg, June 17, 1915. Dr. and Mrs. Freeman will be "at home" to their friends after the 10th of July at 1532 Linden avenue, Baltimore.

DEATHS.

David Streett, M.D., College of Physicians and Surgeons, '78; a Fellow of the American Medical Association; president of the Medical and Surgical Society of Baltimore and the Baltimore Medical Society and vice-president of the Medical and Chirurgical Faculty of Maryland; professor of principles and practice of medicine in the University of Maryland and dean of the Baltimore Medical College for 25 years, until its merger; formerly a trustee of the Maryland General Hospital; died in St. Agnes Hospital, Baltimore, July 30, 1915, after an operation for intestinal trouble, aged 60 years.

Frederick Duvall Caruthers, M.D., University of Maryland, '92; formerly a Fellow of the American Medical Association; formerly professor of genito-urinary surgery in the Maryland Medical College; visiting surgeon to the Franklin Square Hospital, Baltimore; at one time assistant physician to the Spring Grove State Hospital; resident physician at Bayview Asylum and coroner of the Northeastern district of Baltimore; died at his home, July 27, 1915, from disease of the stomach, aged 44 years.

Joseph Henry Shook, M.D., Baltimore University, '98; of Bangor, Pa., for five years surgeon of the Delaware, Lackawanna & Western Railroad at Nicholson, Pa., suffered a concussion of the brain in a collision between his automobile and a trolley car at East Bangor, July 12, 1915, and died four days later, aged 44 years.

Frederick A. Conradi, M.D., Baltimore University School of Medicine, '92, formerly a member of the American Medical Association; a member of the Medical Society of the Faculty of Maryland; for more than 20 years pastor of the first German Evangelical Lutheran Church, Baltimore, died in Mercy Hospital, Baltimore, July 17, 1915, from carcinoma of the stomach, aged 68 years.

William Allison Slaugenhaupt, M.D., College of Physicians and Surgeons, '55; of Kane, Pa., died in the Summit Hospital, Kane, July 21, 1915, aged 57 years.

Everett Alanson Sherrell, M.D., University of Maryland, '12; of Statesville, N. C., died recently at his home of tuberculosis contracted at Bellevue Hospital, New York.

Lewis H. Adler, Sr., M.D., University of Maryland, '59; Jefferson Medical College of Philadelphia, '71; a native of Maryland, died of uremia at the Methodist Hospital, Philadelphia, July 15, 1915, aged 74 years.

Albert J. Laciar, M.D., College of Physicians and Surgeons, '89, for nearly 30 years a physician of Northeast Baltimore, died at his home, 1735 Linden avenue, from pneumonia, July 23, 1915, aged 52 years.

Delano Stapleton Fitzgerald, M.D., Universite de France, '80, of Baltimore, Md., died at the home of his son at Esperanza, Green Spring Valley, Md., after a lingering illness, August 7, 1915, aged 62 years.

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CARCINOMA OF THE BLADDER.—ABSTRACT OF CLINICAL LECTURE GIVEN IN THE LONG ISLAND COLLEGE HOSPITAL.

By Henry H. Morton, M.D.,

Clinical Professor of Genito-Urinary Diseases in the Long Island College Hospital; Genito-Urinary Surgeon to Long Island College and Kings County Hospitals, and the Polhemus Memorial Clinic, etc., Brooklyn, N. Y.

Every bladder tumor in time becomes malignant and kills the patient by constantly recurring and continuing hemorrhage or an ascending pyelo-nephritis.

There are no symptoms of bladder cancer till bleeding begins, at first a painless intermittent hematuria, which later becomes more or less constant.

The diagnosis can be made only by cystoscopic examination.

The earliest attempts at operation for bladder tumors consisted in simply twisting or scraping off the new growth, but recurrences were frequent. Later they were removed by the actual cautery to destroy the base. The results were a little better, but recurrences were the rule.

All operative attempts in cancer of the bladder have been discouraging, as very often the disease was spread or the suprapubic wound failed to close.

According to the European clinicians, the bladder should be opened only in

1. Neoplasms involving the dome or front.

2. Budding neoplasms, whose offshoot clog the neck of the bladder like a stopper in a bottle and cause retention of urine.

3. Neoplasms causing hematuria where hemorrhage makes intervention necessary.

When the tumor involves the floor or is around the ureteral orifice it is better to leave it alone.

In the final stages, to make the patient a little more comfortable, a suprapubic cystostomy with permanent fistula or a double nephrostomy may be done.

Fulguration with the Oudin current is the ideal treatment for non-malignant growths, but its use in malignant growths only serves to check hemorrhage or slightly retard the growth of the tumor.

At present the action of radium is too uncertain and not sufficiently worked out to be depended upon.

Removal of the tumor and resection of the bladder wall for one inch around the base promises to be of some benefit in bladder cancer, provided it is done early.

The general practitioner should bear in mind that every case of hematuria demands an immediate cystoscopic examination, and if the hematuria is caused by bladder cancer an early diagnosis with prompt removal affords at least a possibility of saving the patient's life.

H. V. Raycroft, M.D.

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PRELIMINARY REPORT CONCERNING THE PASSAGE OF BACTERIA THROUGH THE TONSILAR TISSUE AS DETERMINED BY EXPERIMENTAL RESEARCH.

Dr. George B. Wood, Philadelphia.

Paper read at the Thirty-fifth Annual Congress of American Laryngological Association, held May 5, 6 and 7, 1913, in Washington, D. C.

From a study of our experiments it seems that the following conclusions may be drawn: 1. The tonsils in the hog are more readily infected by the anthrax bacillus than any other portion of the buccal or phargygeal mucosa. The clinical history of this disease in the hog shows that in the great majority of idiopathic cases the pharynx has been the site of invasion, and in all of these cases of pharyngeal diseases the tonsils are the port of entry. In none of my experiments was there any involvement of the pharyngeal or buccal mucosa other than the tonsils. While the culture of anthrax was generally brought into more intimate contact with one of the tonsils, it was impossible to limit the bacilli to the tonsilar surface, and they came into contact with a large part of the pharynx. In the infection an effort was made to rub the emulsion into one tonsil only, and in one case the lesions were limited to one tonsil only, but this was not the tonsil on which the culture had been rubbed. 2. Anthrax bacilli penetrate through the cryptical, and not the surface of the epithelium. 3. The anthrax bacillus probably gains access to the parenchyma of the tonsil by passing through the living, unaltered epithelium, and having gained access through the superficial layers of the epithelium, they tended to multiply in the deeper layers, and then pass into the interfollicular tissue. 4. The anthrax baccilli penetrating through the living normal epithelium cause a devitalization of the tissue, which paves the way for secondary infection from the staphylocci or other pathogenic organisms. 5. The rapidity of the invasion is influenced both by virulence of the organism and the susceptibility of the individual animal. Following the invasion the subsequent course of the disease is similar to that found in other tissues. The toxin elaborated by the bacilli causes at first an accumulation of polymorphonuclear cells, later necrosis of the tissue cells with disintegration of the nuclei. The germinating follicles show more resistance to the disease than the inter-follicular tissue. Associated with the necrotic process is an increase in the number and engorgement of the capillaries, and sometimes there is marked extravasation of the red blood cells. The anthrax bacilli accumulate in the lymph spaces, and also around the blood vessel walls. In some of the sections examined the bacilli were found penetrating the blood vessel walls, and a few were found actually in the blood current.

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PREPARATION	Radium Element Content	Radium Emanation accumulated in 30 days (equilibrium amount)
Radium Solution for Drinking ..... "Standard"	2 Micrograms	2 Microcuries (5,400 Mache Units)
Radium Solution for Intravenous Use (Ampulles). "Standard"	50 Micrograms	50 Microcuries (135,000 Mache Units)
Radium Solution for Intravenous Use (Ampulles). "Standard"	100 Micrograms	100 Microcuries (270,000 Mache Units)

"Standard" Radium Solution for Intravenous Use

"Standard" Radium Solution for Drinking

40 to 50% of any quantity of radium element, intravenously used, is eliminated in the first 10 days. The remainder is eliminated at a daily rate of less than one per cent. of the radium present, and may be held constant in quantity by administering one bottle of "Standard Radium Solution for Drinking," every two to four days, depending upon the amount of radium first used.

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This fraud, which was exposed at an action tried before the Supreme Court of Victoria at Melbourne, and others reported before in the medical literature, show that every physician should see that his patient gets exactly what he prescribed. No "just as good" allowed.

The Hay Fever Problem.

THIS is the time of year when the services of the physician are actively demanded by the victim of vasmotor rhinitis—a season dreaded not alone by the patient, but, not uncommonly, by his medical adviser as well. Particularly is this true of the latter if he has not kept abreast of modern ideas on the therapy of hay fever. In any event the disease is one that tries the patience and calls for the application of remedial agents that have been proved beyond peradventure. Happily, there are a number of such agents from which the physician can choose—products that have passed the experimental stage and demonstrated their serviceability. We refer in this connection to some members of the Adrenalin family—Adrenalin Chloride Solution, Adrenalin Inhalant, Anesthone Cream, Anesthone Inhalant. These products, in all of which the isolated active principle of the suprarenal gland (Adrenalin) is an active constituent, have rendered long, efficient service in the treatment of hay fever, and one feels no hesitancy in heartily commending them.

Adrenalin Chloride Solution, which is perhaps more widely used than any other preparation in the treatment of hay fever, is sprayed into the nasal chambers and pharynx by means of a hand atomizer adapted for aqueous liquids, or it may be applied on a pledget of cotton.

For the former purpose it is advisable to dilute the solution as marketed (1:1000) by the addition of four to five times its volume of physiologic salt solution.

Adrenalin Inhalant, which is a solution, in an aromatized neutral oil base, of the suprarenal active principle, is well adapted for vaporization and inhalation from an oil atomizer. Used as an adjunct to Adrenalin Chloride Solution, or, independently, it gives good results, parts not accessible to other medication being readily reached by the medicated vapor. It should be diluted by the addition of three to four times its volume of olive oil.

Anesthone Cream was devised by Dr. J. E. Alberts of The Hague, Holland. It contains Adrenalin and a harmless local anesthetic (para-amido-ethyl-benzoate), incorporated in a neutral ointment base, and is applied to the inside of the nostrils four or more times a day, the patient snuffing it well up after each application, the quantity required being in size about that of an ordinary pea. It affords a relief which continues for hours in many cases, a fact worth remembering when one considers the fleeting effect of most local anesthetics.

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Another agent which has been used with marked success in the treatment of hay fever is Mixed Infection Phylacogen. It is administered by hypodermic or intravenous injection. The initial dose should be small, a 2-Cc. dose subcutaneously or a ½-Cc. dose intravenously being suggested. Many physicians are of the opinion that the use of Mixed Infection Phylacogen marks a distinct advance in hay-fever therapy.

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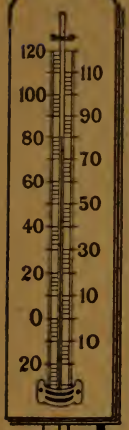

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Medical Council.

"Let George do it" in England may refer to King George or to Lloyd-George, but more especially to the latter gentleman if the public wants to do something to or for the doctors. But in the United States we say "Let Sam do it," and Uncle Sam does. Thanks to our really remarkable Constitution, dear old Uncle Sam has little spanking prerogative among the family of States, and he can't coerce them in their personal affairs except as regards bankruptcy laws and Federal courts throughout the Union and possible squabbles that may arise between two or more States. But if the States *want him to do something* FOR *them,* the Constitution, under "reserved powers" (powers neither delegated to the United States nor prohibited to the States), may "delegate" to Congress "coefficient power" of the most comprehensive character. This is the "*concurrent power*" of the Federal Government to which we referred in our leading editorial for July. Under this really great power Federal medical licensure is possible, with the consent of the States; and only under this power can it be brought to pass, except by repeal of the Tenth Amendment or an enabling revision of the Constitution itself.

As we stated in July, neither enactment by Congress nor decision of the United States Supreme Court has defined the validity of Federal medical licensure under the "coefficient" or "concurrent" powers of Congress, as delegated to it by the States. The point has never come to issue nor decision. We here repeat these declarations (made after proper legal conference and advice received by us) called in question since by a number of gentlemen who considered the matter as closed. These gentlemen should read Tucker's elaborate treatise on the Constitution of the United States.

In order to be well assured of our ground, this editor spent two days in Washington looking up decisions in the Library of Congress and in interviewing the gentlemen there who are in position to speak with authority. This is why we reassert what we said in July.

What we learned in Washington would be too long a story to detail here, especially as regards the legal and constitutional points involved; but a little general information may be of interest.

WASHINGTON VIEWS.

Representative Thomas L. Reilly of the Third District of Connecticut introduced, as requested by Dr. G. Totten McMaster, a graduate of Jefferson Medical College and a surgeon specialist in New Haven, "A Bill to Create a United States Medical Licensing Board" (H. R., 8606). This bill was referred to the Committee on Military Affairs, and it is not likely it will ever come out of committee. We secured a copy of this bill and believe its provisions to be unconstitutional, sharing the belief of several gentlemen in Washington to whom we referred it for opinion. But there has been an unnecessary indulgence in loose talk concerning this bill, which we believe was a sincere and honorable effort to improve conditions. Nevertheless it will have to be dropped.

Mr. Reilly and his secretary, Mr. P. J. Goode, emphasize the point that, if the physicians want Federal medical licensure in any form, *doctors all over the country* will have to *push the matter*

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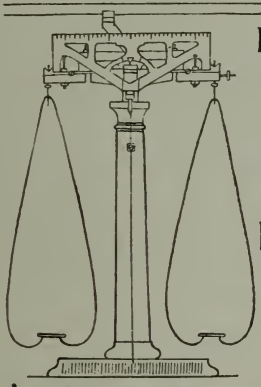

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with energy and *write to their representatives* in Congress urging some special legislation providing for it.

A prominent medical official, who does not wish to be named, told us that "State medical boards and their actions remind him of the plumbers' union." Good in principle and necessary under our form of government, this able gentleman believes that politics cuts too large a figure and that medical licensure will never be placed upon a proper basis until after politics has been eliminated wholly from consideration and some common provisions as regards essentials apply in every State.

The medical gentlemen connected with the various Government activities in Washington, or some of them, seem to be imbued with the idea that something is impending, and if the profession does not soon reach an agreement the people, largely at the instance of the pathists and cultists, will settle the matter in a way wholly unsatisfactory to the medical profession, which may be *dragged* into politics and subjugated thereto. Doctor, what do *you* think of the outlook?

NATIONAL VIEWS.

As long ago as January 11, 1902, a central examining board was editorially proposed in the *Journal of the American Medical Association,* and in an interesting talk we had with Dr. Simmons it appears that the idea has not been dropped, although somewhat quiescent at present. Dr. William L. Rodman, president-elect of the American Medical Association, in 1902, proposed such a board to the A. M. A. Committee on National Legislation, and his report was unanimously adopted.

We are pleased to note that the admirable *Quarterly of the Federation of State Medical Boards of the United States* is interesting itself in this question, and many of the papers therein present constructive views of great interest. We have talked with many gentlemen connected with State boards and find among them at least a growing interest in the subject.

There is no doubt but that the American profession at large is desirous of a solution of this question. Rather unfortunately, most of the talk has been by men who are not definitely informed upon the matter, are not sufficiently impressed with the necessity for maintaining high medical standards and who expect too sweeping changes. Nothing will be accomplished until after the several interests get together upon a reasonable and constitutional basis, and it will take the best intelligence in the profession to bring this to pass.

HOW SHALL WE PROCEED?

Uniform medical legislation in the several States would seem to be a good plan, yet the difficulty in procuring uniform divorce, food and drug, corporation and other laws is but small compared to the all but insurmountable difficulties in procuring uniform medical laws, especially in the face of the tremendous influence of pathists and cultists with the State legislatures. Frankly we believe absolutely uniform medical legislation to be all but impossible, and we are not at all sure that it would be a good thing if possible. Each State has a perfect right to legislate according to its own ideas and in a way to fit its own conditions and people; this can't be uniform in details. The States are interested in preventing abuses and in protecting their people against incompetence, not in the general welfare of medicine and doctors. Let the States stick to their prerogatives and, under their police powers,

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give a free hand to their medical boards to do this work and exact certain *minimum requirements* of all sorts and conditions of practitioners of the healing art. This is a big work and justifies State medical boards. Nevertheless, we feel that the States can and *should make an effort* to come to a uniform basis gradually and in *essentials,* and in doing this should pause wholly as regards proposed medical legislation until after the national medical sentiment is crystallized into some concrete expression promising a permanent solution of the problems involved. We said this before and repeat it here.

What, then, should be done? Ask the Federal Department of Agriculture. It is a glowing and tremendously successful illustration of activities not directly comprehended by the Constitution, but, through the "coefficient" or "concurrent" powers of Congress, carrying on a wide line of Federal activities within the States, with their own co-operating boards of agriculture. It seems to us that further comment is unnecessary except to note that if the farmers in the several States can say "Let Sam do it," the doctors should be able to say the same thing.

Now, then, in view of the facts that the Federation of State Medical Boards of the United States is an accomplished fact and is working well, that State laws generally provide for the registration of officers of the United States Public Health Service without examination, and that there is a general disposition, in all lines of activity and inclusive of medicine, to recognize without question the credentials of Federal origin, we wish to propose a possible solution.

A MOTION BEFORE THE HOUSE.

But what does mere talk amount to? Let us make a motion and then debate it *pro* and *con.* With some temerity *Medical Council* is going to make a motion. It will be in the form of the essentials of a bill, but with legal phraseology and section numbers left out. No one man can draft a bill free from numerous faults. Our effort is merely tentative and is probably full of faults. We make no claim to the contrary. Especially do we realize that the nomenclature is merely suggestive and that many questions of practical administration would have to be worked out by those bureaus and officials involved before it would be possible properly to word any bill actually presented to Congress. With these explanations, we propose:

A BILL

To extend the functions of the United States Public Health Service and to create a new grade of non-commissioned officers to be known as Sanitary Inspectors.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled:

That the Secretary of the Treasury be, and he hereby is, authorized to direct the Surgeon-General of the United States Public Health Service to create a grade of non-commissioned officers to be known as Sanitary Inspectors.

Appointments to this grade shall be made whenever applicants who are citizens of the United States and of determined reputable character satisfy the examining board of the Public Health Service that they conform to the academic and medical standards agreed to by the Federation of State Medical Boards of the United States, this to be proven by examination, or by certificate of qualification and license as a physician and surgeon by one of the several existent Boards of the Federation, or previously constituted State Board, the standards of which are acceptable to the United States Public Health Service, and by such other additional tests upon the science and art of preventive medicine as may be deemed necessary

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An ideal laxative that acts by restoring or increasing the physiologic activity of the bowels; absolutely free from griping, distress or after constipation.

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A true cardiac tonic that can be relied upon to strengthen, support and regulate the heart's action.

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A digestive secernent that has been found to be a remarkably effective stimulant of the gastro-intestinal glands.

Indicated in **Atonic Indigestion** and all **Dyspeptic Conditions** due to glandular inactivity.

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by the examining board of the Public Health Service to determine the fitness of the applicant to act as a Sanitary Inspector under the regulations to be made by the Public Health Service.

Women shall be entitled to the grade on the same basis as men.

Physical examination of applicants shall be waived by the Service whenever in its judgment it is proper to do so in making appointments to this grade.

Successful applicants shall receive the usual credentials of a non-commissioned officer of the Service and shall be assigned to the State of their choice, certification being made to the Secretaries of the Medical Examining Board and the Board of Health of the State that the person is a Sanitary Inspector of the United States Public Health Service detailed to service within the State without pay, except when specially requested by the Public Health Service or the Health Authorities of the State, when they will receive a *per diem* from the authorities calling upon them.

Sanitary Inspectors shall, upon application, be certified to an additional State of their choice or to which they may remove; but in any event they shall be subject to the medical and sanitary laws and regulations of the State of residence.

In case of war, insurrection, pestilence or public danger Sanitary Inspectors must respond to orders from the Public Health Service assigning them to duty under any jurisdiction; but, upon application, they shall be relieved from such special duty if physically or by reason of sex, age or disease they are incapacitated for field service.

Sanitary Inspectors shall be allowed to engage in private medical practice, but if they abandon medical practice as their main occupation or pursuit, they must show cause why their credentials should not be recalled.

Conduct detrimental to the service or in violation of the civil laws shall, upon conviction, subject Sanitary Inspectors to loss of their credentials.

Every Sanitary Inspector shall, upon request, render such reports to the Service as shall be demanded of him.

Sanitary Inspectors shall not be entitled to pensions except for disabilities incurred in the military service of the United States and under the ordinary rules and regulations of such service and while under army or navy command.

The grade of Sanitary Inspector shall not interfere with any other medical or surgical credential granted by any State as under its laws.

Upon the completion of special prescribed courses of instruction, distinguished service, scientific research, original discovery in medicine, sanitation or surgery, or notable authorship, Sanitary Inspectors may become eligible to such honors or promotion as the Public Health Service may elect; but for no other reasons may they be so promoted or specifically honored.

[Additional paragraphs providing for repeal of any Federal law antagonistic, making any necessary appropriation, providing penalties for violations, etc., and authorizing proper regulations for carrying into effect.]

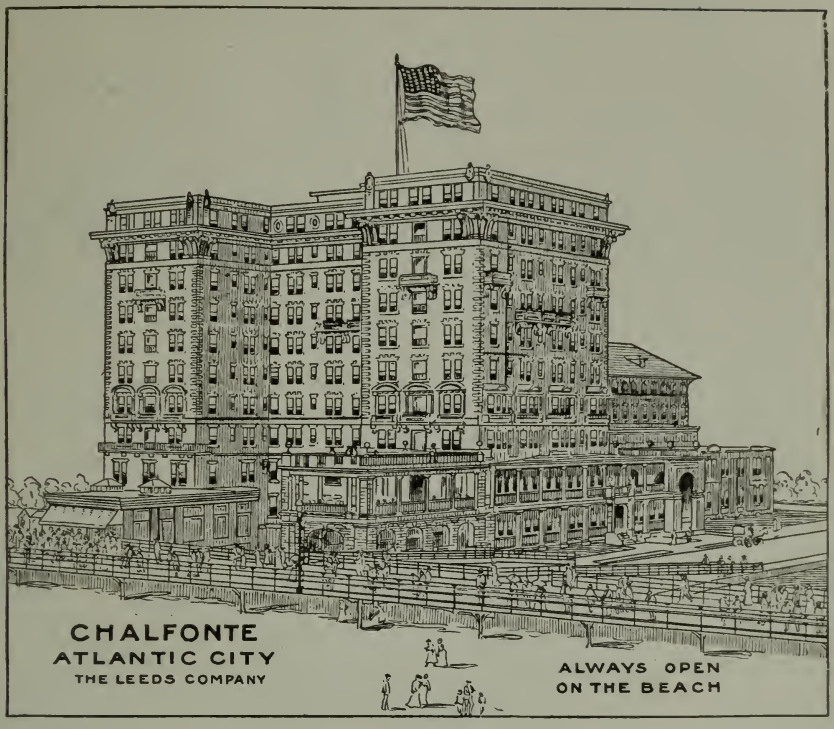
Do we hear a second to this motion? If we do, we shall discuss in our next issue our own and others' views upon this motion. Meanwhile we are making some reprints of this editorial and shall gladly supply copies to gentlemen who can make good use of them.

MEDICAL PROFESSION AND COMMERCIALISM.

The Journal of the Kansas Medical Society.

Of late years it seems that men who are eminently fitted as leaders of commerce have by some error broken into the ranks of the medical profession.

Reference is made to the surgeon, often only self-styled, who purchases for himself a practice. This is done in several ways. First by the much-discussed practice of giving cash commissions or secretly dividing a fee. Second, by appointing men to positions, such as railway surgeons, in some small place, providing that the appointee refer surgical cases to the one who appoints him. We can see little difference in the two methods. Their results are the same. Either method diverts the referred cases into



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a channel which in many cases they would not take if it were not for the bribery or purchase price.

We hear frequently of resolutions being passed against these practices, but we wonder if the burdening of existing laws, codes, etc., with resolutions will get the result or merely obscure the already existing laws and codes.

The code of ethics to which we all subscribe certainly covers the subject, and it appears that it would be wiser to enforce what we already have instead of working off our energy by merely resolving. Make an example of someone. Let someone get up enough courage to get some bona-fide evidence, prefer charges and try some offending member in the manner already prescribed. That will get results that all the resolving possible could not. The code of etics is plain in Chapter 2, Article 6, Section 3.

"It is detrimental to the public good and degrading to the profession, and, therefore, unprofessional, to give or to receive a commission. It is also unprofessional to divide a fee for medical advice or surgical treatment, unless the patient or his next friend is fully informed as to the terms of the transaction."

Again, the subject of soliciting by letter, personal interview, etc., is covered by Chapter 2, Article 1, Section 4.

"Solicitation of patents by circulars or advertisements or by personal communications or interviews, not warranted by personal relations, is unprofessional. It is equally unprofessional to procure patients by indirection through solicitors or agents of any kind or by indirect advertisement, or by furnishing or inspiring newspaper or magazine comments concerning cases in which the physician has been or is concerned."

A "HARMLESS REMEDY FOR HEADACHE, SLEEPLESSNESS, ETC.," FOUND TO CONTAIN HARMFUL DRUG.

A "HARMLESS and speedy remedy for headache, neuralgia, sleeplessness, depression, induced by excessive indulgence in liquor, sour stomach, indigestion, nausea, painful menstruation and other nervous disorders" was alleged to be misbranded because it contained a harmful drug, according to a notice of judgment just issued by the Department of Agriculture.

James Vanatta, alias Century Chemical Co. of Indianapolis, Ind., was charged with the shipment of a quantity of "Celery-Visce," which was described on the label in the above terms. It was also stated to be "pleasant as cream soda."

Having described it as a harmless remedy, the label continues as follows:

Directions: - Dash with force a third of a glass of water on a heaping teaspoonful. Drink while foaming. Repeat in 20 minutes if necessary. Acetephenetidin less than 4 per cent. Compound Vanilla Flavoring. Guaranteed under the Pure Food and Drugs Act, June 30, 1906.

According to the view of the Department of Agriculture, the statement that the product contains acetphenetidin is inconsistent with the former statement that the product is harmless.

The printing on the paper wrapper and package containing the product was regarded as false and misleading. The defendant entered a plea of guilty, and the court imposed a fine of $25 and costs.

Hours, 9.30 to 3.30

DR. HEDLEY V. CARTER

Osteopathist

St. Paul 8136

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One hundred and twenty-five outside rooms; fifty-two in fire-proof addition, with private bath or running water. Table unexcelled. Sun Parlor. Elevators. Rates, **$2.50** up daily, **$14.00** up weekly. American Plan.

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Is in charge of a Trained Nurse and Practical Corset Fitter. Our experience has shown us the need of an expert along these lines. We co-operate with the physician.

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¶An Index to Advertisers will be found on page ii.

¶In writing to advertisers please refer to the JOURNAL.

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LOCAL DIRECTORY

THIS Directory is maintained mainly for the benefit of local firms seeking the patronage of physicians and their families. Only well established and reliable concerns will be represented, and doubtless the space at our disposal will be constantly in demand. In responding to these exploitations, the reader will find it mutually advantageous to mention the MARYLAND MEDICAL JOURNAL.

THE MEDICAL JOURNAL CO.

We Do Not Prescribe Glasses—We Make Them

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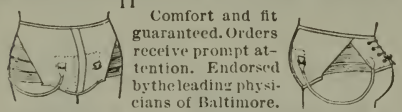

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Chattolanee Spring Water

Publishers' Department.

Danger Due to Substitution.

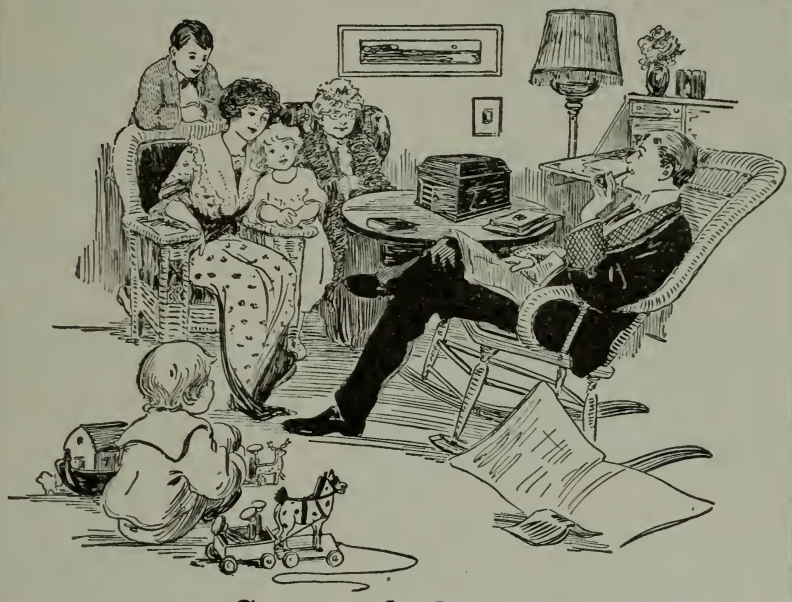
HARDLY another of all the preparations in existence offers a wider scope to imposition under the plea of "just as good" than the scientifically standardized Eucalyptol.

The most recent fraud practiced in regard to this product is an attempt to profit by the renown of the firm of Sander & Sons. In order to foist upon the unwary a crude oil, that had proved injurious upon application, the firm name of Sander & Sons is illicitly appropriated, the make-up of their goods imitated, and finally the medical reports commenting on the merits of their excellent preparation are made use of to give the desired luster to the intended deceit.

This fraud, which was exposed at an action tried before the Supreme Court of Victoria at Melbourne, and others reported before in the medical literature, show that every physician should see that his patient gets exactly what he prescribed. No "just as good" allowed.

The Tuberculous Invalid.

THE pricking of the Friedmann bubble but served to still further confirm and accentuate the vital importance of the well-defined methods of treatment for tuberculosis, that have given such encouraging results, *i. e.*, fresh air, sunshine, rest, nutritive reinforcement and judicious medication. A proper combination of these four remedial factors is practically certain to place the incipient tuberculous invalid upon the road to recovery, if the patient is intelligently handled and the treatment persisted in. While it is, of course, acknowledged that the first three non-medicinal agents referred to constitute the vital elements of the upbuilding régime, considerable aid is afforded by judicious medication. Hematinic reinforcement should certainly not be neglected, in view of the secondary anemia which is almost always apparent. Among the agents which have produced the best results in the revitalization of the blood, Pepto-Mangan (Gude) is the most generally eligible and acceptable. As it is thoroughly palatable, neutral in reaction, free from irritant properties and devoid of constipating effect, the digestion of the patient is not disturbed, while the appetite and general vital tone improve more rapidly and satisfactorily than when hygienic and nutritive measures are depended upon exclusively.



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Pleasure is the big thing with all of us. We crave for amusement—we want to share in the music and fun that bring delight to others.

With a Victrola in your home you can enjoy the world's best music and entertainment whenever you are in the mood to hear it.

We'll gladly demonstrate the Victrola and play any music you wish to hear—stop in any time.

Victrolas $15 to $200. Victors $10 to $100. Terms to suit—at cash prices.

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Surgical, Dental and Orthopaedical Instruments and All Appliances for Deformities Made to Order
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For your Tires, call **G. E. BLAYLOCK**, *The Boy with the RE-TIRE-ING Experience.* Ten years' practice has taught him how. Our work is best. Our price is less. **1817 Maryland Ave.**, near North Ave. Send your Tires by Parcel Post. Phone—Mt. Vernon 4535.

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The Original Front Laced Corset, superior to other Front Laced Corsets. All the different models from $2 to $25. Fittings by expert fitter and corsetiere.

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Foot Specialist
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Office Hours 9 A. M. to 6 P. M.—Sundays 9 A. M. to 2 P. M.

NOTARY PUBLIC
608
PROFESSIONAL BUILDING

Work on New Lozak Laboratory Begun.

Work has just been started on the new plant for the Lozak laboratory at the northwest corner of Twentieth street and Maryland avenue. The proposed improvements will consist of a two-story structure of reinforced concrete with press-brick facing, and will cost approximately $15,000.

Armen H. Thoumaian, proprietor of the Lozak laboratory, recently acquired from the Lind estate the two large three-story dwellings known as 2001 and 2003 Maryland avenue, which will be connected with the new laboratory. The lower floors of the dwellings will be converted into offices, while the upper floors will be made into apartments.

George A. Gebb has the contract for the improvements, which call for one of the most modern and up-to-date plants of its kind in the country.

The plant has heretofore been located on Charles street, between North avenue and Twentieth street, but it was found necessary to locate elsewhere since that property has been acquired as portion of the site for the new Fourth Regiment Armory.

Enlarged Field of Ipecac Therapy.

SINCE the introduction of Alcresta Tablets of Ipecac (Lilly), a preparation that makes it possible to administer large doses of the ipecac alkaloids by mouth, reports from various sources indicate its value in several diseases. It has been used with excellent results by several physicians of note in the treatment of anemia, gastritis and urthritis due to pyorrhea, and reports also tend to confirm its indications in typhoid fever, hemorrhages of a capillary character, tonsilitis and bronchitis.

Alcresta Tablets of Ipecac first came into prominence in the treatment of pyorrhea and amebic dysentery, for which they are said to be a specific. In prescribing the tablets for the former malady it should be borne in mind that the best results will be obtained by recommending the patient to a dentist for proper cleaning of the teeth. It is interesting to note that pyorrhea is often complicated with other diseases and that these complications have often been ameliorated or entirely relieved after the administration of Alcresta Tablets of Ipecac.

Statements of marvelous cures have not been uncommon, and while many of the claims sound extravagant, investigations in many instances have proven interesting and will assist materially in marking out the true field of ipecac therapy.

Eli Lilly & Co. of Indianapolis are endeavoring to learn the true status of ipecac in the treatment of disease and will welcome reports of the success or failure from the readers of the MARYLAND MEDICAL JOURNAL.

The Value of Glyco-Thymoline in Treating Intestinal Disturbances.

The condition of the alimentary canal in all diseases of that tract is one of either congestion or depletion of the villi.

Autointoxication follows a condition of depletion, and while this condition is not the direct cause of the "self-poisoning," the restoration to normal conditions would undoubtedly prevent septic absorption.

The condition in diarrhoeal diseases is one of stasis with a great amount of exudation of serum, the villi being greatly distended.

In either case a return to normal conditions is most readily effected by an agent producing an exosmotic action—in the one case to deplete, and in the other to promote the exudation necessary to wash out the intestines and prevent autoinfection.

That Glyco-Thymoline will do this effectively has been demonstrated time and time again, and many clinical reports from many physicians testify to its great power as a curative agent in all such cases.

ANTIPHLOGISTINE provides the best, most agreeable and convenient known means of supplying continuous moist heat, in all inflammations. This can be maintained for 24 hours or longer, at a uniform temperature. Ordinary poultices soon become cold, clammy and uncomfortable to the patient and lose any remedial effect they may have had, before becoming cold.

A CHICAGO physician reports: "Some time since a young lady patient of mine, learning that her mother, who lives in New York, was so very ill from neuralgia and general prostration that the case was considered alarming, as no relief could be obtained except from the use of narcotics, asked my advice, and I told her that while I was not at liberty to interfere, if her doctor was willing, she should try Tongaline. I have just learned that the mother did so, and is now so much improved as to be able to go to the Adirondack Mountains to recuperate."

Corpora Lutea.

That Corpora Lutea is a therapeutic agent of great value in the treatment of certain diseases and conditions peculiar to women is now an established fact. It is known that functionally the corpus luteum sustains a more or less important relation to ovulation, menstruation, nutrition of the genitalia, lactation, etc. Perversions of these functions, as seen clinically, are often susceptible of correction by the administration of corpora lutea from animals in properly prepared form. For this vicarious therapy the ovaries from cattle and swine are procured and the corpora lutea removed, dried and powdered. This material is supplied by Parke, Davis & Co. in capsules of five grains each, equivalent to about 30 grains of fresh corpus luteum. The usual dose is one capsule three times daily, taken at least an hour before meals.

Corpora Lutea, P. D. & Co., has proved advantageous in the treatment of functional amenorrhea, dysmenorrhea of ovarian origin, manifestations of physiologic or artificial menopause, neurasthenic symptoms during menstrual life, sterility not due to infection or mechanical obstruction, loss of one ovary and inadequate functioning of the other, repeated abortions not due to diseases or mechanical factors, hyperemesis in the early months of pregnancy and migraine occurring during the menstrual period.

As one writer has well said, it seems highly probably that "in corpora lutea we have an agent that will prove a blessing to womankind."

Physicians and Their Families When Visiting New York City Should Register at the Hotel Breslin.

Located in the very heart of the city at Twenty-ninth street and Broadway; five minutes' walk to the New York Post-Graduate Medical School and eight minutes, surface car, to the Polyclinic Medical School; three minutes from five of the largest department stores; six minutes from twenty of the principal theaters; the elevated and subway stations conveniently accessible; Hudson Tubes and Fifth avenue busses two blocks away.

The Breslin is a high-class house with the most moderate rates in the city of New York. A real homelike hostelry with every modern comfort and convenience—catering only to the best people. The spacious lobby, fitted with luxurious, easy chairs, is inviting to the tired shopper or sightseer. The quiet air pervading the whole is conducive to a homelike atmosphere found nowhere else in New York City. The culinary department is under the supervision of an expert chef—an artist and past-master in the preparation of good things to eat. The Dixie Room is noted as the best place in New York City to get real old-fashioned Southern cooking. The Breslin serves a Dixie dinner for a dollar which cannot be equaled. The service in every department is pleasing and satisfactory. Rooms with running water from $1 to $2. With bath or shower from $1.50 to $3.

Everything new and modern, equipped to satisfy the most exacting taste. Enquiries cheerfully answered by Mr. Roy L. Brown, Manager, Hotel Breslin, New York City.

An Efficient Somnifacient.

The great disadvantage attaching to most agents used to produce sleep is that the patient suffers from their untoward effects. This does not apply to Pasadyne (Daniel) in any manner at all, and yet it possesses somnifacient properties in a marked degree.

Pasadyne (Daniel) may be depended upon to fulfill the purpose for which it is given, and owing to its freedom from disagreeable properties, it is of special value in the nervousness and insomnia of women.

A sample bottle may be had by addressing the laboratory of John B. Daniel, Inc., Atlanta, Georgia.

Cod Liver Oil in Chlorotic Children.

It has been found by actual clinical test that the administration of a palatable cod liver oil product is of the utmost advantage in building up chlorotic children. For this purpose Cord. Ext. Ol. Morrhuae Comp. (Hagee) is of particular merit since it not only possesses the qualities requisite in overcoming an impoverished condition of the bloodstream, but is palatable and does not disturb the stomach, for which reasons it may be continued over long periods of time.

Antiphlogistine is a physiological antagonist of the inflammatory process—deep-seated or superficial. It produces marked osmotic action upon the swollen tissues, thus relieving congestion because of its hygroscopic, hydrophilic properties. It is antiseptic, soothing and promptly effective.

MARYLAND
Medical Journal

Medicine and Surgery

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Volume Fifty-Eight
Number Eleven

NOVEMBER, 1915

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an American paraffin oil that is not only tasteless, odorless, and without acid or "bloom," but one that is totally free from the "lighter hydrocarbons" (*which often produce renal disturbance*) and the sulphur compounds (*which tend to cause intestinal irritation*).

Therefore, in using **INTEROL**—a pure, flavorless, safe and effective mineral oil—the painstaking physician may be sure he is administering a product that may be confidently relied upon to produce the full benefits to be derived from the paraffin treatment of *chronic constipation* and *intestinal stasis.* **INTEROL** is obtainable from druggists generally. *Booklet on request.*

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"A Dependable Ally"

All too frequently when the natural defences of the body call for support and reinforcement, the reserve forces are found to be weak and inadequate. The aid of a good tonic becomes urgent, therefore, if the body is to win in the conflict with disease.

As a dependable ally to the physiologic forces of the body

Gray's Glycerine Tonic Comp.

has proven its value beyond all question during the twenty-five years it has been at the command of the medical profession.

It is simple yet appealing in its composition; the ingredients of "Gray's" are selected and combined with a care to quality and uniformity that assures therapeutic effects impossible to obtain with nondescript substitutes.

Samples On Request

The success of "Gray's" is a success built upon efficiency and reliability—**the attainment of results**; in no other way could it have won the regard and confidence of the thousands of physicians to whom it is "the first thought" *whenever a tonic is needed.*

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A HIGH-GRADE institution for the care and treatment of those suffering from Nervous and Mental Diseases, Alcohol and Drug Addicts and general enfeeblement.

Located in the choicest suburb of the National Capital, surroundings ideal, buildings new, heated by steam lighted by electricity, licensed by the District of Columbia, inspected and controlled by the Health Department of the City of Washington.

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SYRUPUS HYPOPHOSPHITUM FELLOWS

One of the most efficient, most complete, and best all-round Tonics in the Materia Medica!

For four and a half decades its reputation has been constantly increasing!

Reject < Cheap and Inefficient Substitutes
Preparations "Just as Good"

THE FELLOWS
MEDICAL MANFG. CO. LTD.
26 CHRISTOPHER ST.
NEW YORK

WHAT WOMEN'S CLUBS AND NURSING ORGANIZATIONS CAN DO TO PREVENT BLINDNESS.

It is estimated that 50 per cent. of all blindness is preventable. This statement will be surprising to many—that one-half of the sightless people in this country need not have been blind had proper care been given to their eyes. But it has long been known by those endeavoring to prevent unnecessary blindness that more than a quarter of the pupils in the schools for the blind are sightless because their eyes were not properly treated during the first few days of life; that poor midwives are in part responsible for this tragedy; that children become totally or partially blind from neglected "sore" and "weak" eyes, and from neglect after attacks of such infectious diseases as measles, scarlet fever, etc.; that progressive nearsightedness among children may cause total or partial blindness if neglected; that household and industrial accidents cause the loss of many eyes; that drinking wood alcohol or inhaling its fumes in close places causes both blindness and death; that inadequate lighting and glaring surfaces are responsible for much visual disturbance, including eye-strain; and that eye-strain is a frequent cause of both mental and physical inefficiency.

Visiting nurse organizations and women's clubs, working independently, or, better still, together, can perform valuable service in the elimination of these causes, thereby saving babies, children and adults from lifelong blindness.

"BABIES' SORE EYES" (OPHTHALMIA NEONATORUM).

This disease, which causes so much blindness, is preventable, and, if taken in time, is curable.

The prevention of blindness from babies' sore eyes is accomplished through the routine use of 1 per cent. solution of silver nitrate, or some such prophylactic, in all infants' eyes immediately after birth, and by prompt and skilful treatment of babies' eyes when they become red, swollen and discharging, whether or not a prophylactic has been used.

1. Does the birth certificate used in your locality include the question, "What preventive did you use for ophthalmia neonatorum? If none, state the reason therefor?"
2. Are prophylactic outfits distributed gratuitously by your Health Officer to doctors and midwives?
3. Are doctors, midwives and parents required to report to the Health Officer, within six hours, redness, swelling or discharge from the eyes of infants in their care who are under three weeks of age?
4. Is this reporting law printed on the birth certificate—thus acting as a constant reminder?
5. Has the Department of Health a nurse in its employ, or does it so co-operate with a nursing organization that it may send a nurse at once to visit each reported case and secure adequate medical or hospital treatment for uncared-for patients?
6. Are there such hospital facilities for the care of babies' sore eyes that the Health Officer may send an infant to a hospital without delay if the eyes are in a serious condition?

Take these points up with your Health Officer, interested oculists and obstetricians, and don't rest until they are all attended to. Make it your business to see that any baby suffering from sore

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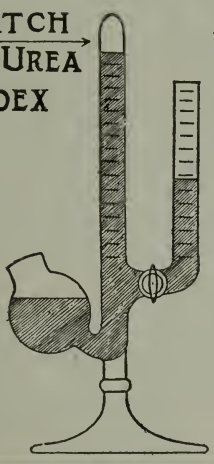
WATCH the UREA INDEX



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eyes, of which you have knowledge, is given prompt and adequate medical attention.

Try to have at least one nurse in the community for eye work exclusively, and see that there are hospital facilities for treatment of severe cases of babies' sore eyes.

MIDWIVES.

These women attend about half the births occurring in this country, and the majority of them are dirty, ignorant and generally unfit to assume the care of mothers and babies. Although the carelessness of many physicians is equally reprehensible, it is due in great measure to the ignorance and neglect on the part of midwives that many babies become blind from babies' sore eyes.

1. Are there midwives practising in your community?
2. Are they registered by an official body?
3. Is it required that they be adequately trained, pass an examination, obtain a license, and register before beginning to practice?
4. Has your community a midwife training school connected with a good hospital?
5. Do the practicing midwives give clean, careful nursing care to mother and child, and instruction to the mother concerning hygiene of pregnancy and care of her child?
6. Has the State or City Health Department adopted rules regulating midwives' practice in detail and requiring them to summon a physician in all but normal cases?
7. Are there inspectors to enforce the rules and give helpful advice to the midwives?

Make it your business to find out about this, for the sake of the mothers and babies. Your Board of Health is the proper body to have control of midwives. The Board of Education should regulate their training and licensure.

EYESIGHT OF SCHOOL CHILDREN.

Many normal children seem backward because they have sore eyes or defective vision. Failure to correct these defects will probably mean continued retardation for many of the children, and inability to reach their highest possible mental and physical development and economic efficiency. Continued neglect may result in partial or total blindness.

1. Are all classrooms in your schools adequately lighted?
2. Are the blackboards and tops of the desks lusterless?
3. Are all of the desks adjustable?
4. Are the children's eyes carefully and regularly examined for nearsightedness and other visual defects, and for various kinds of "sore" eyes?
5. Is this done by an oculist?
6. Are there clinics where school children with "sore" or "weak" eyes may be treated?
7. Is there provision for furnishing eyeglasses to indigent children who need them?
8. Are common towels allowed in your schools? (They spread eye diseases.)
9. Are the children taught how to take care of their eyes?

Improving the eyesight and general surroundings of school chil-

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INFANT FEEDING

Malnutrition-Marasmus-Atrophy

MELLIN'S FOOD
4 level tablespoonfuls
SKIMMED MILK
8 fluidounces
WATER
8 fluidounces

Analysis:

Fat	.49
Protein	2.28
Carbohydrates	6.59
Salts	.58
Water	90.06
	100.00

The principal carbohydrate in Mellin's Food is maltose, which seems to be particularly well adapted in the feeding of poorly nourished infants. Marked benefit may be expected by beginning with the above formula and gradually increasing the Mellin's Food until a gain in weight is observed. Relatively large amounts of Mellin's Food may be given, as maltose is immediately available nutrition. The limit of assimilation for maltose is much higher than other sugars, and the reason for increasing this energy-giving carbohydrate is the minimum amount of fat in the diet made necessary from the well-known inability of marasmic infants to digest enough fat to satisfy their nutritive needs.

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In
Rheumatic
Conditions

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dren will be of immediate benefit to them, and will increase their chances for enjoying health and prosperity later in life.

Talk to your Board of Education about this—it is important. The children can't do it themselves.

INDUSTRIAL ACCIDENTS.

Many good workmen are seriously handicapped and even become public charges as a result of losing one or both eyes in an accident that might have been prevented. Men, women and children often suffer from severe eye-strain because they are not provided with adequate light while at work.

1. Are workmen in the factories and shops in your locality protected from eye accidents by goggles, guards on emery wheels, screens to catch flying chips, guards on water gauges, etc.?
2. Are the factories, workshops and workrooms adequately lighted?
3. Are workmen examined to see that they are not especially liable to accidents because of defective vision?

Take these points up with your Department of Labor, Industrial Safety Commission, or some similar body.

The eyes are breadwinners and must be carefully guarded.

WOOD ALCOHOL.

Wood alcohol is a poison which may cause blindness or death if swallowed, or its fumes are inhaled in an inadequately ventilated place.

1. Have you a law forbidding wood alcohol to be sold in any form without a poison label and warning?
2. Is the use of wood alcohol absolutely forbidden in beverages, medicines and toilet preparations.
3. Are your druggists, paint and varnish dealers, liquor dealers, grocers and barbers prosecuted for failure to comply with the above restrictions?
4. Is wood alcohol used in any of your local industries? If so, are employers required to protect their workmen from poisoning by providing adequate ventilation?

Your Board of Pharmacy, Department of Labor, Health Department and Commissioner of Excise have jurisdiction in this matter. Find out what they are doing about it. In the meantime urge your druggists to give up the sale of wood alcohol, and urge your friends to use denatured alcohol instead. It is safer and cheaper than wood alcohol.

The National Committee for the Prevention of Blindness wants your help and co-operation in spreading the knowledge that much blindness is needless. It has data and information, lantern slides, exhibits and pamphlets on the various causes of unnecessary blindness and methods of prevention, and it is glad to share these with workers in all parts of the country.

In order to accomplish the ends suggested in the foregoing program it is necessary to have official action, supported by public opinion. Try to have at least one big popular meeting annually under the joint auspices of the local medical society, the Health Officer, Superintendent of Schools, Y. M. C. A., women's clubs, nursing organizations and relief agencies. Arrange for talks before school children, mothers' clubs, etc., and secure as much

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Affords hepatic stimulation without purgation—a true cholagogue.

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PRUNOIDS

A remarkably effective remedy for relieving and correcting

CHRONIC CONSTIPATION

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CACTINA PILLETS

Regulate, support and strengthen the heart.

SENG

A trustworthy gastric tonic.

SULTAN DRUG CO., St. Louis, Mo.

newspaper publicity as possible. Write to the National Committee for suggestions and assistance.

The educational work must be sustained—the effort unremitting.

Ella L. Blair, Chairman, Public Health Department, General Federation of Women's Clubs.

Carolyn C. Van Blarcom, Chairman, Committee on Prevention of Blindness and Midwives, National Organization for Public Health Nursing; Secretary, National Committee for the Prevention of Blindness, 130 East 22d street, New York City.

Abstracts.

STRICTURE OF THE URETHRA III.*

Henry H. Morton, M.D.,

Clinical Professor of Genito-Urinary Diseases in the Long Island College Hospital; Genito-Urinary Surgeon to Long Island College and Kings County Hospitals and the Polhemus Memorial Clinic, etc., Brooklyn, N. Y.

In making a diagnosis of stricture we cannot tell anything from the history. It simply tells us that the man has an obstruction in his urethra which may be stone, prostate, or stricture. The diagnosis is made by examination, and the flexible bulbous bougie is the best instrument for this purpose. A steel sound is too inexact, as the sound passes through the stricture, gradually dilating it, whereas a bulbous bougie, on being withdrawn, catches on the stricture band, and a sensation as if passing over a fiddle string is felt.

All soft and recent strictures are treated by dilation, and many organized strictures may be treated in this way.

For dilation two instruments are used: 1. Sounds. 2. Dilators.

The effects of dilation are that mechanical stretching and small tears take place in the substance of the stricture, under the mucous membrane, blood supply is increased and absorption is favored.

By repeated dilations the character of the tissue is changed from a live scar, which would contract, to a dead scar, which has little or no tendency to contract.

In all cases begin with sounds, using one large enough to just stretch the stricture. Massage of the urethra over the sound gives beneficial effects of massage as well as dilation. Sounds should be passed about once a week.

After a full-sized sound no longer dilates the stricture we use a dilator, increasing one or two points at each sitting, followed by an irrigation with silver nitrate 1-4000.

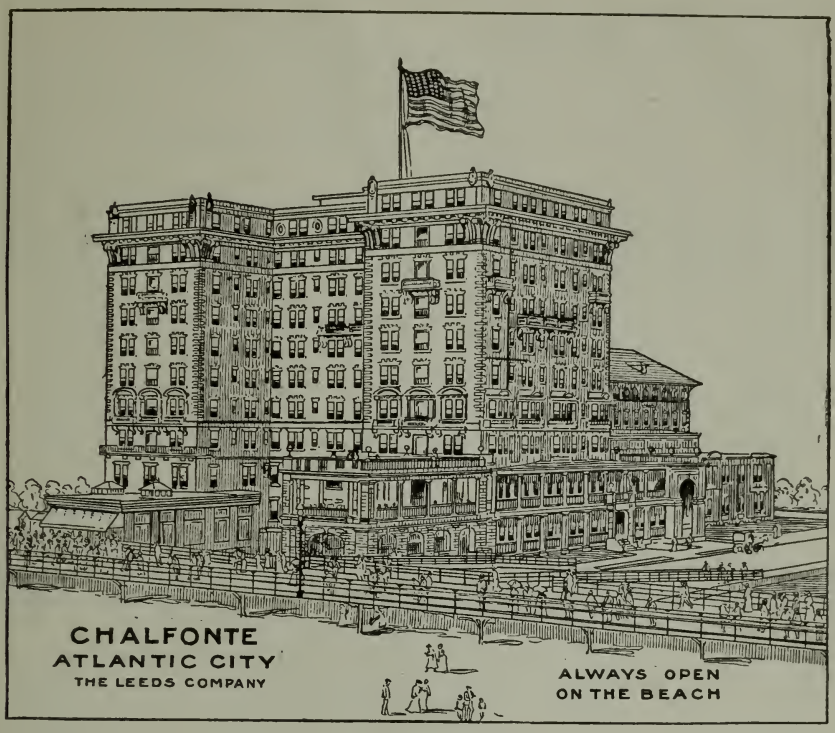
Severe bleeding means too much dilation and patient should have two weeks' rest.

False passages are made by pushing the end of sound into the periurethral tissues.

In very tight strictures a filiform guide should be passed and a tunneled sound threaded over it and passed into bladder.

If stricture is so tight no sound can be passed, the guide may be left in for 24 hours, causing superficial ulceration; then a flexible bougie is passed and left in for 24 hours. This is continued, using

*Abstract of Clinical Lecture given in the Long Island College Hospital.



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Bet. Charles and St. Paul Sts. BALTIMORE, MD.

a larger bougie each time, till a sound can be passed. This method is not in common use today.

False passage, or in very tight, heavy, dense, tortuous strictures immediate external urethrotomy is indicated.

32 Schermerhorn street, Brooklyn, N. Y.

THE AMBULANCE CONSTRUCTION COMMISSION.

This is the first great war in which field motor ambulances have been extensively used. It was inevitable that many defects should be found in existing types, and in various quarters experts began to ask whether something could not be done to standardize the patterns and to improve the type. At the instance of Mr. Henry S. Wellcome, the founder of the Wellcome Bureau of Scientific Research, a commission has been formed, and the names of members show at once that the matter is regarded as of first importance by those most intimately connected with the welfare of the wounded soldier.

Sir Frederick Treves, whose long experience and distinguished service specially fit him for the task, has consented to be the chairman. The Admiralty is represented by the Director-General of the Medical Department, R. N., while the Quartermaster-General to the Forces and the Acting Director-General, Army Medical Service, represent the War Office. The British Red Cross Society is, of course, represented by Sir Frederick Treves, and the St. John Ambulance Association by Sir Claude Macdonald and Sir John Furley. The remaining members are all experts. This commission will first and foremost act as a judging committee for the award of prizes of the value of £2000 provided by the Wellcome Bureau of Scientific Research. These prizes are offered for the best designs of an ambulance body which shall fit a standard pattern motor chassis for field motor ambulances. The last day for the receipt of competing designs is June 30, 1915. It is hoped that the competition will bring in a number of ingenious designs, from which the ideal field ambulance body will be evolved.

It may be asked why the competition is restricted to designs for a body and not for the complete ambulance, including a chassis. The reason is that a chassis takes much longer to build than a body, and that, when war breaks out, it is impossible to get at short notice anything like a sufficient number of any one type of chassis. On the other hand, a standardized body to fit any chassis of approved dimensions can be constructed in numbers at comparatively short notice. And a perfected body is badly wanted to ensure complete comfort for the wounded.

It is hoped that the information obtained by the competition, and in other ways, will be published in some permanent form available for future reference. Probably in addition to one design of special excellence there will be submitted various ingenious suggestions which may be incorporated in the pattern design approved by the commission. For these a portion of the prize money has been set apart. The first prize is of £1000, the second £500, and the third £300. All details of conditions may be obtained from the secretary the Ambulance Construction Commission, 10 Henrietta street, Cavendish Square, London, W. The competition is open to citizens of all nations.

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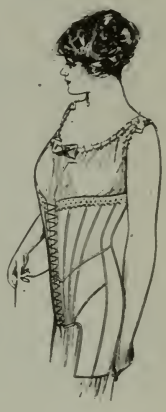

¶An Index to Advertisers will be found on page ii.

¶In writing to advertisers please refer to the JOURNAL.

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LOCAL DIRECTORY

THIS Directory is maintained mainly for the benefit of local firms seeking the patronage of physicians and their families. Only well established and reliable concerns will be represented, and doubtless the space at our disposal will be constantly in demand. In responding to these exploitations, the reader will find it mutually advantageous to mention the MARYLAND MEDICAL JOURNAL.

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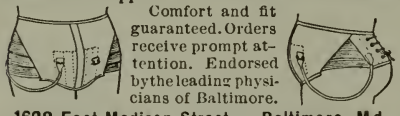

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The most recent fraud practiced in regard to this product is an attempt to profit by the renown of the firm of Sander & Sons. In order to foist upon the unwary a crude oil, that had proved injurious upon application, the firm name of Sander & Sons is illicitly appropriated, the make-up of their goods imitated, and finally the medical reports commenting on the merits of their excellent preparation are made use of to give the desired luster to the intended deceit.

This fraud, which was exposed at an action tried before the Supreme Court of Victoria at Melbourne, and others reported before in the medical literature, show that every physician should see that his patient gets exactly what he prescribed. No "just as good" allowed.

Bacterial-Vaccine Therapy.

THE treatment of infectious diseases with preparations derived from corresponding microorganisms long since passed the experimental stage, and bacterial vaccines may be said to occupy an assured place in therapeutics. These vaccines, as is doubtless well known to most physicians, are suspensions, in physiologic salt solution, of killed bacteria. An important effect of their administration is to raise the destructive power of the patient's leucocytes against the specific living invaders. Injected into the human organism, bacterial vaccines have an effect similar to that produced on the horse by the introduction of toxins or killed cultures: they cause active immunity. In other words, the administration of a dose of bacterial vaccine stimulates the patient to produce an additional supply of antibodies, thus enabling him to resist the disease.

Bacterial vaccines have several advantages over the ordinary forms of medication. They are determinate or specific in the respective infections in which they are indicated. Their employment relieves the patient of the necessity of frequent "dosing." Being administered by the physician, or under his direct supervision, they enable him wholly to control his cases.

Some idea of the scope which bacterial-

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NOTARY PUBLIC
608
PROFESSIONAL BUILDING

vaccine therapy has come to assume may be gathered from an announcement which Parke, Davis & Co. are making in current medical journals and which physicians will do well to consult. Twenty-three vaccines are listed in the advertisement. They are supplied in 1-Cc. glass syringes, 1-Cc. glass bulbs, 5-Cc. vials and 20-Cc. bottles, all sealed in a manner that guarantees the sterility of their contents. The syringes are designed for the use of physicians who desire to inject the fluid without first removing it from the original container.

Parke, Davis & Co.'s bacterial vaccines are scientifically prepared, and precise therapeutic results may be confidently expected from their administration.

A Routine Practice.

To guard them from the bronchial and pulmonary inflammations to which they are unusually susceptible, many physicians make it a routine practice to put the weak and anemic members of their families on Cord. Ext. Ol. Morrhuae Comp. (Hagee) just as soon as cold and changeable weather sets in. The value of this preventive measure lies in the power of Cord. Ext. Ol. Morrhuae Comp. (Hagee) to make blood and add resistance to tissues.

Alcresta Tablets of Ipecac.

THE discovery that ipecac alkaloids are efficient endamebicides in the treatment of amebic dysentery and pyorrhea, and that it is possible by means of Alcresta Tablets of Ipecac to administer the drug orally without causing nausea, has attracted nation-wide attention among physicians and dentists.

While the treatment of pyorrhea, which is much more common in this country than amebic dysentery, is essentially the dentist's field, the fact that many patients of the physician are observed to be sufferers from this very common malady and that many systemic disorders yield to pyorrhea treatment, makes the subject one of practical interest to the physician.

The properties of ipecac are so well known that many practitioners have expressed a desire to know just how it is possible to administer the alkaloids of ten grains of ipecac orally without causing nausea. In Alcresta Tablets of Ipecac the alkaloids are held as adsorption compounds with a form of hydrated aluminum silicate. In the stomach where the juice is acid the tablets disintegrate, but the alkaloids of ipecac are not liberated. In the intestines where the secretions are alkaline, emetine and the other ipecac alkaloids are quickly released and subsequently enter the circulation.

As a rule, headaches and digestive disorders, associated with pyorrhea, are ameliorated or relieved after taking Alcresta Tablets of Ipecac, and good authorities aver that it has shown marked beneficial results in many other ailments. Literature and further information on Alcresta Tablets of Ipecac, Lilly, may be had by addressing the company at Indianapolis.

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Convalescence.

AFTER a long and serious illness the functional activity of the digestive tract is always depressed, and as a consequence during convalescence no line of treatment is more urgently required or more positive in its benefits than measures capable of promoting the physiologic efficiency of the digestive organs. Tonics are more or less serviceable, but inasmuch as the profession have in Seng a true digestive secernent, this remedy is the one generally turned to by physicians who are familiar with its exceptional therapeutic value. Under its systematic use the secretory glands of the stomach are gradually restored to their normal activity, and as this takes place the nutrition of the whole body naturally shows a corresponding improvement. Since convalescence and a return to perfect health are always largely dependent on the restoration of the nutritional equilibrium, it can readily be seen how useful Seng is following an acute illness. Certainly no medical man who has ever tried this effective remedy in the treatment of some weak, de-

bilitated patient, and observed the response which the digestive functions make to its tonic influence, will deny to similar patients the benefits he knows it will give.

The Neurasthenic Invalid.

Like the poor, the neurasthenic is "always with us," and while the stress and strain of modern life and living continue, the physician will be called upon to treat the more or less chronic invalid who exhibits all sorts of bizzare symptoms, in endless and kaleidoscopic variety. It is, of course, an easy matter to advise the physician to search out and remedy the operative cause of the disorder, but it is not always as easy to do this, especially when no organic changes are discoverable. While purely symptomatic treatment may be unscientific, it is usually essential, in order to gain and retain the confidence of the patient. There is, however, one pathologic finding in a large majority of cases, and that is anemia of greater or lesser degree. In some instances this may be found to be the essential cause of the neurotic symptoms. In any event, this condition should be corrected, and for such purpose there is no better remedy than Pepto-Mangan (Gude). When a hematinic is indicated for a nervous, cranky man, or a finicky, more or less hysterical woman, Pepto-Mangan is peculiarly serviceable, as the patient cannot consistently object to the taste, which is agreeable to everyone. The digestion is not interfered with in the least, constipation is not induced, and the blood-constructing effect of the remedy is prompt and certain. It is always worthy of trial not only in the anemia of the neurasthenic invalid, but also in all conditions of blood and tissue devitalization.

In Hippocrates' time, constipation and intestinal indigestion were overcome by means of purging and the advice that the patient should not eat garlic, cheese and hot bread. Three hundred years later Aretæus endeavored to found pathology on a firm basis and described intestinal ulcer in dysentery. Celsus in 100 A. D. gave enemas instead of purgatives, and used aloes for constipation. Alexander of Trallex in the seventh century taught that opium should be used with caution in diarrhœa, and Paulus Aegineta about the same time used rhubarb as a cathartic, while in the tenth century senna and licorice were added.—*When Did It Happen? Published by Reed & Carnrick.*

The Bladder Ills of the Aged.

Certain bothersome bladder troubles of elderly people are often due quite as much to systematic debility as to local weakness. Lack of space prevents any extensive consideration of the subject, but if the whole body is debilitated the metabolism is sure to be deranged, the bowels become sluggish and an increased amount of abnormal or waste products find their way into the urine. These are more or less irritating and account not infrequently for the low-grade form of cystitis that accompanies the "run-down" state of the aged. In such cases tonic medication is urgently indicated, and the well-known capacity of Gray's Glycerine Tonic Comp. for promoting functional activity and increasing bodily elimination gives it a special utility in the management of any bladder trouble in which metabolic depression or derangement is a factor.

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ABSTRACTS.

THE PUBLIC AND LOW-GRADE MEDICAL COLLEGES.

In one of the tables of statistics published in the State Board number of *The Journal of the American Medical Association* is information of special importance to the public; it indicates the States that are not adequately protected against untrained doctors. The table shows that the boards of thirty-two States are making some use of the legal power conferred on them to discriminate between medical colleges and to refuse recognition to those which are of a low standard or are not properly equipped to furnish their students a satisfactory training in modern medicine. Of the thirty-one State boards, nine (Alabama, Colorado, Iowa, Indiana, Minnesota, New Hampshire, New Jersey, North Dakota and South Dakota) will not license the graduate of any medical college unless he had completed at least two years of work in an approved liberal arts college before taking up the study of medicine. There are eight States (Arizona, District of Columbia, Idaho, Massachusetts, Montana, Oregon, Tennessee and Wyoming) which have not given the boards full legal authority to pass on the character of standing of the colleges whose graduates may be admitted to examination, and in nine other States (California, Kansas, Maine, Missouri, Nebraska, Nevada, North Carolina, Utah and Washington) the boards are apparently given ample power, but, so far as the reports indicate and for various reasons, the boards are not using that power. Arkansas and Florida each have three separate and independent licensing boards, one of which—the regular board—has refused to recognize low-grade colleges under its jurisdiction. We learn of no such action by the other two boards in each of these States. It goes without saying that since the graduates of these low-grade medical colleges cannot secure licenses in thirty-two States, they will flock to those in which they are still eligible. These seventeen States, therefore, are certain to be the dumping-ground for the output of these inferior colleges just so long as the practice acts permit, or so long as the State licensing boards do not take action against them. The people have the right to expect that the State (on which the national constitution places the responsibility) will grant them proper legislation, and that the licensing board—the only legal body having these matters in charge—will take such action as is necessary to protect them against the ill-trained product of low-grade medical colleges.

INTESTINAL OBSTRUCTION.

A. McGlannan, Baltimore (*Journal A. M. A.*, August 21, 1915), says that though aseptic surgery has revolutionized the mortality statistics of acute intra-abdominal disease, the death rate from intestinal obstruction remains almost as high as it was thirty years ago. In the series of 276 cases studied by him the mortality was 45.7 per cent. In 161 cases the obstruction occurred in the small intestine, and 46.6 per cent. died. Seventy-five were cases of large intestine obstruction, and the mortality was 44 per cent. In forty-nine cases the exact position of the obstruction was not given, though probably in the small intestine. In the jejunum the obstruction was fatal in 52 per cent. of the cases.

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Much experimental work has been done to determine the cause of death, and it indicates that the secretion of the duodenal mucous membrane is involved in the fatal factor. Hartwell and Houget, in their experiment, show that dehydration is an important element in a fatal outcome. In pathologic obstruction of the human intestine met in clinical work an intact mucous membrane is never seen. Earlier effect is shown in the altered nutrition of the bowel caused by interference with the circulation. The slow onset of toxemia and its slight degree in chronic obstruction may be due to the development of a resistant epithelium with a compensatory hypertrophy, occurring in the loop of bowel above the obstruction; or it may be the result of the gradual development of a vicarious function of resistance by another organ. From the work so far done, McGlannan points out that the toxemia arises from the duodenal secretion, and says all facts point to the absorption of a chemical compound of the cholin group of substances as the underlying essential cause of death in intestinal obstruction. The causes of death in the present series in the fatal cases were: Toxemia, 75 per cent.; peritonitis, 12 per cent.; post-operative shock, 5 per cent.; miscellaneous, 8 per cent. In these 127 cases there were twenty in which the bowels were gangrenous. Fourteen of these patients died of toxemia, three of peritonitis, and three others fifteen, twenty-nine and twenty-six days, respectively, after operation, from pneumonia, tuberculois and embolism. The toxemia is combated with great difficulty. Its immediate effects on the heart and vasomotor system, and the secondary effects on the kidneys, liver and other important organs tend to disaster. Early recognition and prompt treatment offer the only hope of reducing mortality. In the present series of cases the average duration of symptoms before operation in the cured jejunal obstruction was one and two-thirds days. In the fatal jejunal cases two and five-sixths days, in the ileum cases the average duration of the cured was three and one-third days, of the fatal, six days. As a rule, the higher the obstruction the more fatal the outcome. He describes the symptoms of the three stages, which at the onset are pain, nausea and vomiting with or without constipation or diarrhea coming on suddenly without regard to ingestion of food. Movements of the bowels or stomach washing will not relieve the pain, and with these symptoms the diagnosis should be promptly made and the operation performed. If there is any hesitation a second lavage should be done after one hour. The presence of duodenal material in the washings at this time makes a diagnosis certain. In eighteen cases of operation made on these symptoms the obstruction was found and the patient recovered. In the second stage we have persistent pain, distention, a visible and palpable spastic coil of intestine, visible peristalsis, with ladder pattern, local tenderness, etc. Frequently, gangrene of the bowel and localized peritonitis. In the third stage toxemia overshadows everything, and is the principal object in treatment. Sixty-three of the 276 cases were post-operative and twenty of the patients died. Nearly 40 per cent. of these followed drainage after operation for appendicitis, which is a potent argument for early operation in those conditions when no drainage will be required. Operative methods vary with the stage of the disease, its complication, etc. In the third stage, enterostomy will be the only method justified. When toxemia has developed it

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must be combated regardless of what must be done for the direct relief of the obstruction. After the enterostomy a large quantity of water should be supplied, best by hypodermoclysis, to prevent dehydration, and third, the injection of epinephrin intravenously or with the subcutaneous water to counteract the effect of the toxin on the heart and blood pressure.

REPRINTS.

THE ENGLISH ARMY MEDICAL CORPS.

By John F. Parker.

The Medical Times.

MANY medical men, as well as laymen, will be surprised to know that since the institution of the order of the Victoria Cross, the simple Maltese cross cast out of the cannon captured at Sebastapol and marked only with the two words "For Valor," the Medical Corps of the British Army can claim for it more recipients than any other branch of that country's fighting forces. This means that the officers and men of that section of the British Army that is trained to save life have risked their lives even more valiantly on the fighting line than those whose work it is to deal out destruction. That much coveted piece of bronze worn in the place of honor on the left breast of the soldier is not only a manifest tribute paid by the English nation to her own "silent soldiers," but to the whole medical world.

Never since the beginning of warfare has the English Medical Corps been in a better condition to cope with its difficult problem of handling the injured on the field and her base hospitals at home than in the present international conflict. Of the 3000 to 4000 men trained in this branch of the service, more than 300 are surgeons of ability and in most cases of practical experience in war. These figures do not embrace at all the auxiliary assistance which in the case of England's last important combat, that in the Transvaal, was very great. This medical reserve is not entirely a thing brought into existence in a moment of national emergency or in a moment of sudden outburst of patriotic feeling, but is a carefully-trained body of men and officers, recruited chiefly among the students and professors of the leading medical schools, and has existed for many years. Their organization has been officially recognized and encouraged by the government. As for the civilian cooperation in such emergencies, not only England, but the world in general, has still fresh in its memory the services rendered by surgeons of the standing of Sir William MacCormac and Sir Arthur Conan Doyle. The latter was in charge of perhaps the finest volunteer medical organization ever sent to a battlefield. The Langman Field Hospital has taken its place in history not only on account of its talented leader, who was able to write in the spare moments he seized from his arduous labors one of the best and most popular histories of the Boer War, but for the actual work it accomplished.

The medical service of modern armies seems to be still somewhat of a mystery to the majority of men, including, unfortunately, many who are engaged in the art of healing. In this country strenuous efforts have been made by a small but enthusiastic group of surgeons to create an efficient Medical Reserve for the United States Army. It has not received the full recognition such an in-

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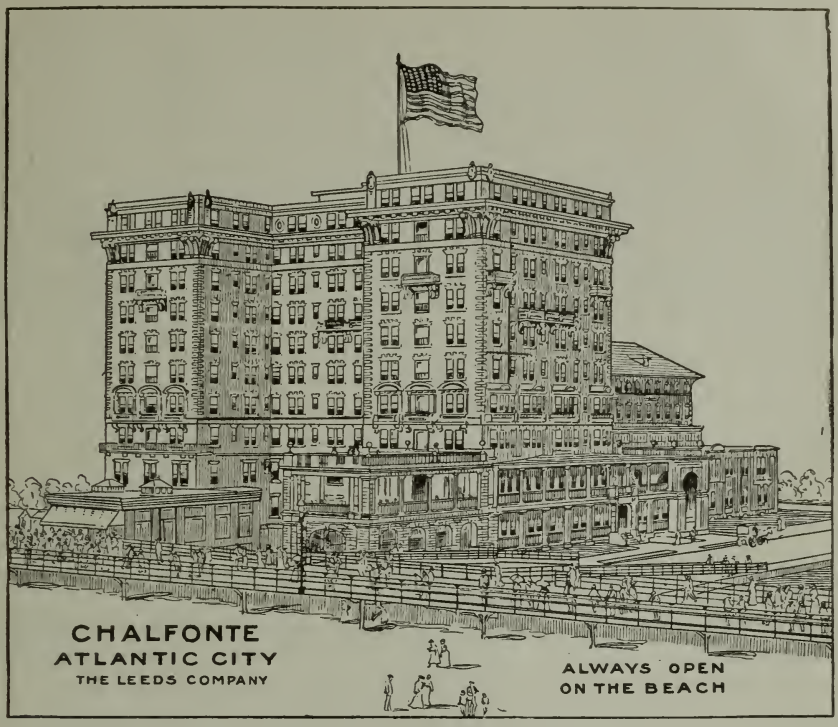
dispensable branch of modern warfare deserves. Even in the English Army, where so much attention has been paid to the medical service, there is no doubt a totally inadequate number of men trying to repair the damage done to human flesh and bone on the plains of Belgium and Northern France by all the modern inventions of destructive machines. It is a well-known fact that in many past engagements of the army in question every man in the bearer companies has had enough to do for ten men. Conan Doyle's eulogy of the manner in which the surgeons and their assistants handled the wounded after the terrible havoc wrought in the battle of Magersfontein stands out as one of the most interesting features in his "Great Boer War," and is a recognition of the fidelity and untiring energy of those who work under the Red Cross.

Perhaps one of the reasons for the somewhat general ignorance of the medical service is due to the fact that until within comparatively few generations back such a thing hardly existed. For centuries there has existed a form of the regimental surgeon and his assistants, which still exists outside the Medical Corps properly speaking. Some of these men have left a name in history. A handsome mural painting on the walls of the University of Paris commemorates the work of one of the earliest known military surgeons, a Frenchman, Ambroise Paré, at the siege of Metz in the 17th century. The coming of Miss Florence Nightingale and her band of helpers to the overcrowded hospitals of Scutari in the Crimean War first brought the attention of the civilized world to the appalling lack of proper attention to the disabled in war, and with it may be truthfully said came into existence in England a properly organized medical service to be afterwards known as the Royal Army Medical Corps.

It has been stated how each regimental unit has its medical officer. This means that every battalion of infantry, regiment of cavalry, battery of artillery, etc., has its surgeon, who, in addition to other duties, is responsible for the sanitation of his particular camp. In the present European crisis a specially-trained body of men has already been sent to the continent to aid in this matter, to test water and supervise as much as possible the food dealt out to the army. Under the surgeon are non-commissioned officers and privates properly furnished with the necessary medical and surgical equipments. Each battalion has the right to eight stretchers, each stretcher in the charge of four men, two of whom are bearers and two assistants, who look after the arms and accoutrements, carry the surgical haversack and water bottle and make themselves generally useful. The wounded man's arms are carefully kept and accompany him throughout every stage of his journey rearward to the dressing station on the theory that he may recover and take his place again in the ranks. One of our photographs shows one of these stretcher companies at the maneuvers on the Aldershot plains. They belong to the Third Royal West Surrey Regiment, one of the most efficient and best organized territorial regiments in the British service. The members of the bearer company are picked for their courage and general intelligence. They are trained to lift and carry the stretcher in such a manner as to minimize to the greatest possible extent the jolting incidental to steep ascensions and climbing over obstacles. On starting out with a loaded stretcher the front and rear man break step and take a short step with bent knees, the pace ranging approximately 18 inches, as compared to the regulation stride of 30



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inches. Thus a dip of several inches less is saved. The stretcher is carried absolutely level, and in such a manner that the wounded man's feet face forward except when going uphill. Naturally, the bearers are never allowed to carry the stretcher on their shoulder, for a bullet in either one of them would probably mean a serious fall for the wounded man. Every soldier in the English army carries in a little pocket that is sewed up in his tunic a packet of field dressings with directions as to their use. This packet is enclosed in waterproof covers, and contains a compressed dressing, a small piece of gauze, a gauze bandage 4½ yards long and a thin waterproof covering 12 inches by 6 inches. The injured man is thus capable in some cases of looking after himself somewhat until picked up by the regimental stretchers, a bearer company of the Medical Corps, 16 of which keep up with every brigade of five battalions, or by members of the Red Cross Society and other volunteer helpers.

Incidentally, here is where relentless attention and industry must be shown by the officers and men of the bearer companies in keeping in touch with the changing fortunes of a battle, their labors lasting incessantly sometimes day and night. Reports from the other side seem to indicate that on both sides the wounded are continually falling into the hands of the opposing armies. First aid is rendered by these companies, hemorrhages arrested and antiseptic dressings applied, but there is no washing and exploration of wounds. The regimental surgeons rarely can perform operations at this point. The wounded are carried back from the firing line to the collecting station, where ambulances, in the proportion of ten to one brigade, are in waiting. This station, if possible, is located out of range of fire close to a road and near water. An accompanying photograph shows an ordinary field ambulance and water cart of the Army Medical Corps, which can follow the army almost anywhere except in very mountainous countries or in the case of rapidly-moving troops, when panniers slung on both sides of mules are used, provided the wounded can sit up. The modern motor ambulance, with all of its advantages, is unfortunately restricted in its power, in that it is confined to roads. A short distance back of the collecting station is the dressing station, where operations can be performed. The rank and file are taught how to make fires, boil water, prepare beef tea, food and administer stimulants to counteract the effect of shock and to carefully lay out the medicines and surgical instruments. The operation having been performed, the officer attaches to the clothes of each man a specification tally, stating, if possible, his regiment, rank and name, with the nature of the wound, the treatment and the precautions to be observed in transport, and sends him back by a second line of ambulances to the field hospital. From here the severely wounded are sent back gradually to the base hospital, far in the rear of the army. The field hospital is known as the Second Line of Assistance, and contains 100 beds. One is attached to each brigade, and must accompany it on its march. For this purpose it is supplied with the necessary wagons, motor trucks and equipment, of which large tents capable of being rolled up and packed in an hour form the principal items. The Third Line of Assistance consists of the hospitals on the lines of communication, which are connected as much as possible by hospital trains, many of which have been specially built and fitted out for this purpose.

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THIS Directory is maintained mainly for the benefit of local firms seeking the patronage of physicians and their families. Only well established and reliable concerns will be represented, and doubtless the space at our disposal will be constantly in demand. In responding to these exploitations, the reader will find it mutually advantageous to mention the MARYLAND MEDICAL JOURNAL.

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The most recent fraud practiced in regard to this product is an attempt to profit by the renown of the firm of Sander & Sons. In order to foist upon the unwary a crude oil, that had proved injurious upon application, the firm name of Sander & Sons is illicitly appropriated, the make-up of their goods imitated, and finally the medical reports commenting on the merits of their excellent preparation are made use of to give the desired luster to the intended deceit.

This fraud, which was exposed at an action tried before the Supreme Court of Victoria at Melbourne, and others reported before in the medical literature, show that every physician should see that his patient gets exactly what he prescribed. No "just as good" allowed.

Vaso-Motor Derangements.

THE part played by the vaso-motor system in countless diseases is at last thoroughly recognized. As a consequence, circulatory disorders are among the most common functional ailments that the modern physician is called upon to correct. Various heart tonics and stimulants are usually employed, but the effect of these is rarely more than temporary. To re-establish a circulatory equilibrium that offers real and substantial relief from the distressing symptoms that call most insistently for treatment requires a systematic building up of the whole body. Experience has shown that no remedy at the command of the profession is more serviceable in this direction than Gray's Glycerine Tonic Comp.

For nearly 20 years this standard tonic has filled an important place in the armamentarium of the country's leading physicians. Its therapeutic efficiency in restoring systemic vitality and thus overcoming functional disorders of the vaso-motor or circulatory system is not the least of the qualities that account for its widespread use. The results, however, that can be accomplished in many cases of cardiac weakness have led many physicians to employ it almost as a routine remedy at the first sign of an embarrassed or flagging circulation.

The Constipation Problem.

It is perhaps a conservative estimate that three out of every four individuals suffer in greater or less degree from constipation. The proportion so afflicted is certainly much greater than it was forty, thirty or even twenty years ago, this abnormal condition being commonly attributed to our so-called higher civilization. Lack of exercise probably plays a large part in the equation. The use of concentrated foodstuffs is undoubtedly another etiological factor. So widely varied are the specific causes, numerous remedial agents are necessary to meet the differing indications. Of late the "mechanical" laxative has been receiving attention from many therapeutists. There would seem to be warrant for this innovation. Obviously there are cases of constipation in which the use of an efficient intestinal lubricant or simple carbohydrate would be preferable to that of the cathartics commonly prescribed.

Of the various mechanical laxatives which are being offered for the consideration of physicians it is doubtful if any are more serviceable than American Oil (a colorless liquid petrolatum) and Agar (a Japanese gelatin derived from seaweed), both marketed by Parke, Davis & Co. Each of these products, after ingestion, passes unaltered into the intestine, no particle of it being digested or absorbed.

American Oil is a colorless, odorless, tasteless liquid petrolatum. As its name implies, it is of American origin. It is guaranteed to be free from any active or harmful substance, and to be fully equal to the best Russian oil formerly imported. It is of greater viscosity than most of the liquid petrolatums that are being offered, for which reason it is more efficacious as a laxative. The customary prescription is one tablespoonful of American Oil, before meals, two or three times a day. After the fourth or fifth day, when the desired effect is established, the amount may be reduced.

Agar, supplied in the form of dry granules, absorbs water and merges with the feces, keeping them uniformly moist and thus aiding peristalsis. One or two heaping tablespoonfuls morning and evening (with milk or cream or mixed with a cereal food) suffices for the average patient.

A Systematic Boost.

It is safe to say that the average physician is called upon to prescribe a tonic more frequently than any one other form of medication, unless it be a cathartic. Patients who are patients solely because they are tired, "run down" and generally debilitated are constant visitors at the physician's office. Such individuals need something that will boost them up to their normal point of resistance and then hold them there—in other words, not a mere temporary stimulation, with secondary depression, but a permanent help to the revitalization of the blood and a general reconstruction. Pepto-Mangan (Gude) is not only prompt in action as an encourager of appetite and better spirits, but is also distinctly efficient as a blood builder and systematic reconstituent. It is pleasant, non-irritant, free from constipating effect and does not stain the teeth. It is thus a general constitutional tonic of positive service in all conditions of general devitalization.

A Safe and Effective Somnifacient.

A SOPORIFIC agent of particular therapeutic worth and one especially indicated in women and children by reason of its freedom from danger and disagreeable after-effects is PASADYNE (Daniel).

PASADYNE is a concentrated tincture of passiflora incarnata and has been prepared by the same firm for more than thirty-five years. This preparation will be found of reliable worth in all nervous states. A sample bottle may be had by addressing the laboratory of John B. Daniel, Inc., 34 Wall St., Atlanta, Georgia.

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WHILE the specific for malaria is universally known to be quinine, it is a fact gleaned from clinical experience that its value is largely increased by using Phenalgin coincidentally. Observation in malarial districts has shown that Phenalgin not only materially enhances the action of quinine, but often prevents certain of its disagreeable effects like tinnitus, headache, etc. In the routine treatment, therefore, of malarial fever the employment of Phenalgin in conjunction with quinine, can be relied upon to accomplish more prompt and satisfactory results.

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THE exceptional food value of cod liver oil has never been questioned, but the problem which has confronted physicians since the beginning of its use has been how to make it suf-

ficiently palatable for delicate stomachs and yet sacrifice no part of its therapeutic value.

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When Alcresta Tablets of Ipecac were first introduced to the profession as a means of giving the alkaloids of ipecac by mouth, without at the same time causing nausea and vomiting, the wide therapeutic use they would eventually enjoy was not contemplated. They were first used in the treatment of amebic dysentery with very happy results. Following the discovery by Drs. Barrett and Smith of the constant presence of endamebas in pyorrheal lesions, the Alcresta Tablets of Ipecac were employed in treating this extremely prevalent disease and during the past few months have attained a popularity enjoyed by very few drugs.

Alcresta Tablets of Ipecac are composed of Lloyd's Reagent, holding in absorption the alkaloids of ipecac—namely emetine and cephaeline, both of which are endamebicidal in action. The tablets are uncoated, and while they disintegrate readily in water, they do not liberate the alkaloids in any media until it is rendered alkaline. Thus, while the tablets disintegrate readily enough in the stomarch, the alkaloids are not freed until the alkaline secretions of the intestines are reached. The use of these tablets is economical, convenient and time-saving, important factors in treating a chronic disease prevalent among all classes of people.

In their advertising literature Eli Lilly & Company strongly emphasize the need of proper instrumentation and local treatment and sound a warning to those who use the Alcresta Tablets of Ipecac to the exclusion of proper surgical procedure. Permanent results will best be obtained by combining ipecac therapy with surgical measures.

A successful medical practitioner of many years standing makes the following statement:

"There are a large majority of combinations which extemporaneous pharmacy cannot prepare properly; and I know that through the dishonesty, ignorance, or indifference of many retail druggists we are not able to get on prescriptions the very best drugs; hence it is to the manufacturing pharmacist, whose best interest lies in the purity and uniformity of his product, that we look for our most reliable remedies.

"I endorse worthy proprietaries, but I most heartily condemn the great tendency of manufacturing pharmacists to foist upon the profession and public cheap imitations of standard preparations."

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For the relief of the nervous irritability following over-indulgence in alcohol, Pasadyne (Daniel) will produce results of a highly gratifying character. These patients want cessation of the intense irritability, they want sleep, and in Pasadyne (Daniel) they may secure them. Pasadyne (Daniel), the concentrated tincture of passiflora incarnata, is the ideal sedative. Effective and free from untoward results, it can be given without a feeling that evil effects may follow.

A sample bottle may be had by addressing the Laboratory of John B. Daniel, 34 Wall street, Atlanta, Georgia.

"Whatever be the nature of rheumatism and gout, every practical physician realizes that they are amenable to treatment, and that it is a matter of as much importance to open the doors by which the poison goes out as to close those doors by which it comes in. Hence prompt and thorough elimination must be obtained through the liver, the kidneys, the bowels and the skin."

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